AUGUST 1954

PRINTING EQUIPMENT Engineer

Control of Production at McCormick-Armstrong

Portrait Presentation of Craftsmen Officials

Key to Uses—Negative and Positive Transparencies

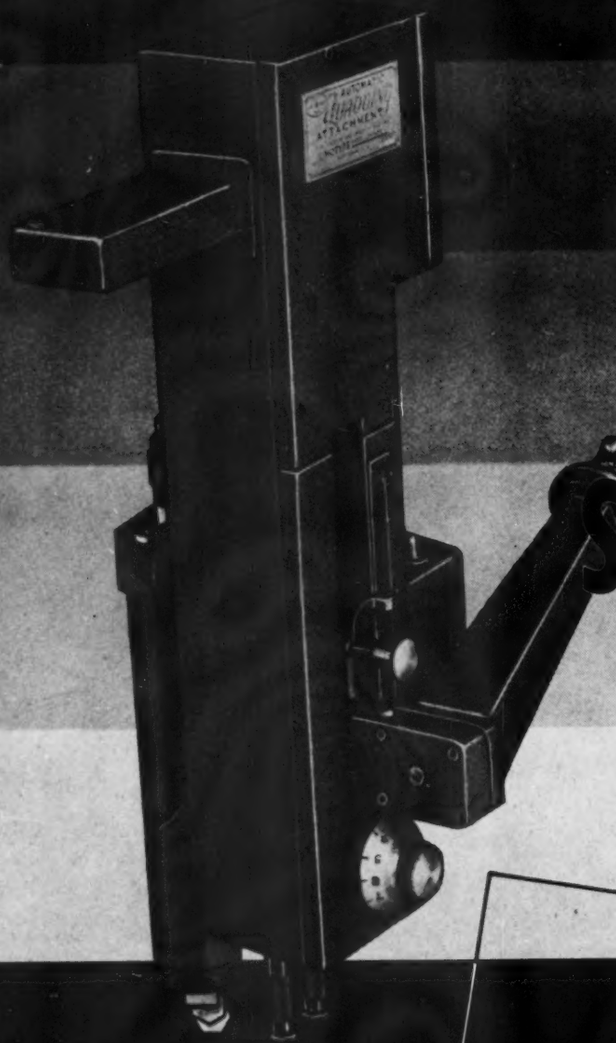
PLEASE ROUTE THIS COPY TO

...nager	Pressroom Foreman
...oduction Mgr.	Bindery Foreman
...nt Supt.	Mailing Foreman
...tomaking Foreman	Maintenance Supt.
...mposing Foreman	Purchasing Agt.

...r filing, please return to

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

IN SEVEN YEARS



Over

800

Star Quadders

In Use!

(...many of these repeat orders!)

Positive Proof
of
Dependable Performance

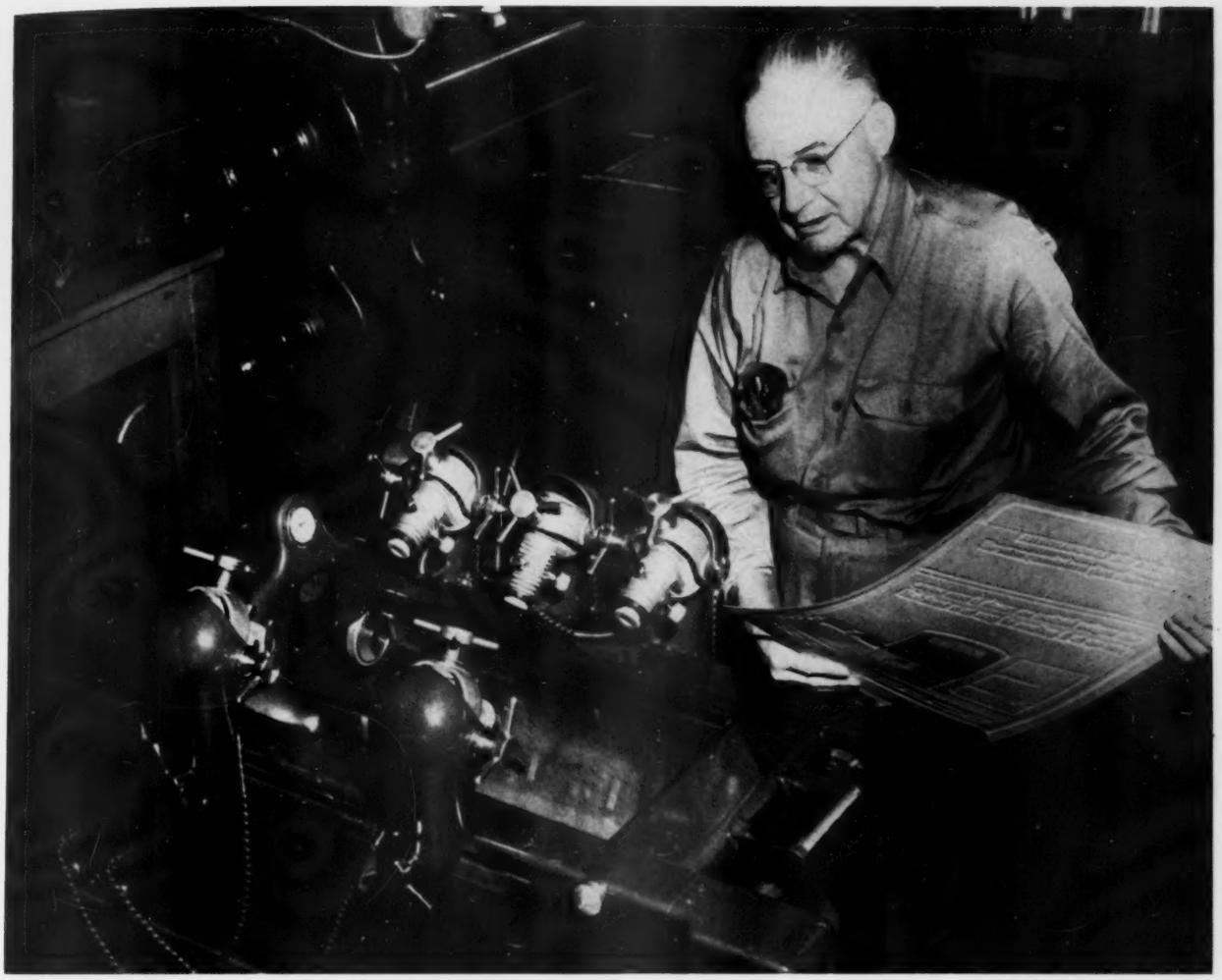
FIND OUT TODAY
BY WRITING FOR
COMPLETE
INFORMATION

Precision
TRADE ★ MARK
Parts

BRANCH 1327 BROADWAY, KANSAS CITY, MO
AGENCIES CHICAGO · MINNEAPOLIS
LOS ANGELES · DENVER · BOSTON
CANADA SEARS LTD and Agents Overseas

LINOTYPE PARTS
Company, inc.
SOUTH HACKENSACK, N. J.

STA-HI MASTER TRIMMER SPEEDS COLOR REGISTER AT DENVER POST



"Since installation of our Sta-Hi Master Trimmer last December, it has proven itself in many ways in our Stereotype Department. It has eliminated the guesswork in the pre-registering of color mats.

"One feature I like about the Master Trimmer is the trimming of the three important sides of the mat in one operation, which is an advantage in the handling of multiple color ads.

"In the pressroom, plates cast from mats registered and trimmed in the Master Trimmer have reduced to a minimum the time required to register these plates.

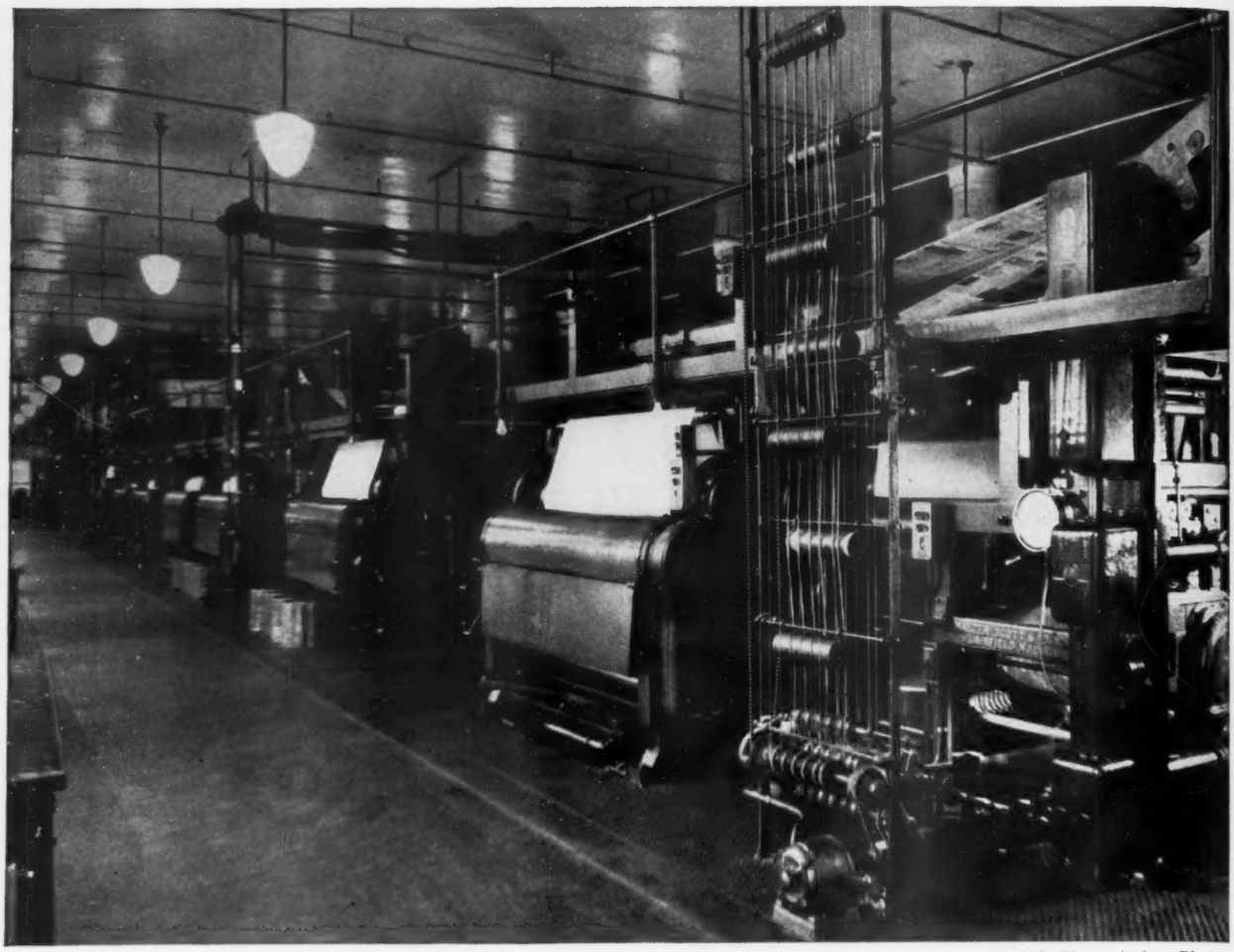
"I am greatly pleased with the Sta-Hi Master Trimmer and would recommend it most highly."

Emmet J. Wilt, Supt.,
Stereotype Department
THE DENVER POST

STA-HI

...your best buy

STA-HI CORPORATION, BOX 152, WHITTIER, CALIFORNIA



Detroit News Action Photo

BUILT LIKE A BATTLESHIP...RUNS SMOOTH AS A WATCH

Like Battleships, SCOTT PRESSES are built to withstand the most rugged runs.

Symmetry of design—Precision machining—Dynamically balanced rotating parts—provide consistently smooth, trouble-free, economical operation.

Thoroughly modern, SCOTT "EXTRA HI SPEED" PRESSES, of Alloy Steel construction, are the ultimate in engineering—substantial as Battleships, yet run with the precision of the World's Finest Watch.

Modernizing . . . Expanding . . . Planning a New Plant . . . Consult SCOTT on the fastest, most versatile newspaper press equipment ever developed.

Buy with confidence . . . Buy SCOTT

15-L-11

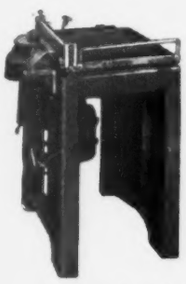
WALTER SCOTT & CO. INC.

PLAINFIELD, NEW JERSEY

TURN OUT MORE VOLUME AT LOWER COST

with Morrison Composing Room Machines

MORRISON PLATE BEVELER



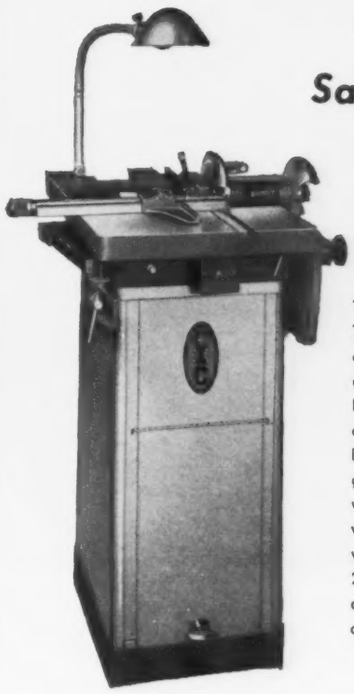
Puts a perfect, burr-free shoulder or bevel on all plates. Cutters work from edge of plate, not the top. You get a smooth die-straight cut every time.

MORRISON SLUG STRIPPER

"Proves itself to the men, within 24 hours." Makes it easy to strip the face of any slug or type character to the exact thickness needed for base heights.

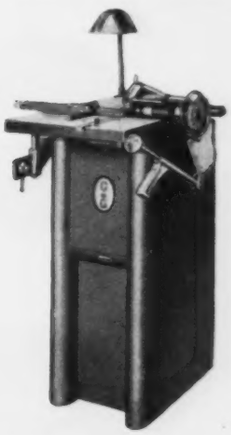
MORRISON

Model 3-A Saw Trimmer



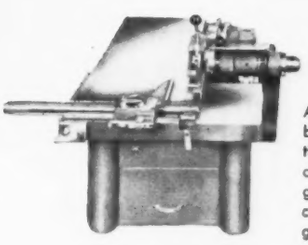
Today's more versatile saw, Table, 30" x 18". DeLuxe equipment includes: 73-Pica gauge and workholder. 135-Pica extension gauge, miter and lineup gauge, right and left-hand miter vise, saw grinder with dished emery wheel, trimmer grinder, universal saw blade assembly with head and trimmers. No 20 waste receptacle, adjustable lighting fixture, motor and pulley.

MORRISON MODEL 45 SAW TRIMMER



With pistol grip saw blade attachment. Features "Trigger Speed" saw adjustment.

MORRISON ROUTER AND TYPE HIGH PLANER



MORRISON MODEL "45" SPECIAL

A low-cost saw trimmer that embodies most of the features of the higher priced Model "45" and Model 3-A. "Behind the gauge" work clamp is standard, conventional "ahead of the gauge" clamps is optional equipment. Also available in a cabinet model.

Saves time in making corrections and changes, saves make ready time by having all cuts precision height. Has exclusive Morrison micrometer height gauge. Allows routing to center of a 34" cut.

Other Morrison Equipment includes: Strip material cabinets, waste receptacles, Universal saw blades, router bits, and jig saw blades

Symbol of Operating Economy

THE MORRISON COMPANY MILWAUKEE WIS.

THE *Morrison* COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. Melvina Street, Milwaukee 12, Wisconsin

FAST

DEPENDABLE

TIME-TESTED!

THE IDEAL COMBINATION

...WOOD REELS, TENSIONS, ELECTROTAB AUTOPASTERS

The result of *over 20 years experience* in designing and building the world's finest Reelroom equipment. Imitated but *unequalled* from any standpoint of performance and dependability, WOOD Autopasters, Reels and Tensions have proved to be indispensable equipment through years of service in the plants of America's busiest newspapers.

As added proof of their worth, more and more newspapers are adding this combination to their plants. The list of users is long and distinguished. We would be pleased to send you this list . . . no doubt one of these newspaper plants is right in your own neighborhood.

IF IT'S Wood IT'S GOOD

WRITE FOR FULL INFORMATION ON WOOD REELROOM EQUIPMENT.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

PRINTING EQUIPMENT *Engineer*

August 1954

An industry-wide technical magazine published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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Printed in U. S. A.

AN INDUSTRY-WIDE TECHNICAL MAGAZINE

You Can Easily Stitch

An Average of up to 2500 Books Per Hour with the

Rosback® AUTO-STITCHER

Auto-Stitcher Features

- Basic machine has two stitching heads and slide stacker delivery.
- *Seven accessory* attachments, including continuous belt delivery, are available to meet the requirements of printing plant or bindery of any size.
- *Low in price*—less than half that of any gang stitcher.
- *Cuts Costs*—as much as 50% or more when compared to hand stitching.
- *Handles short runs at low cost*—saves tying up expensive gang stitcher equipment.

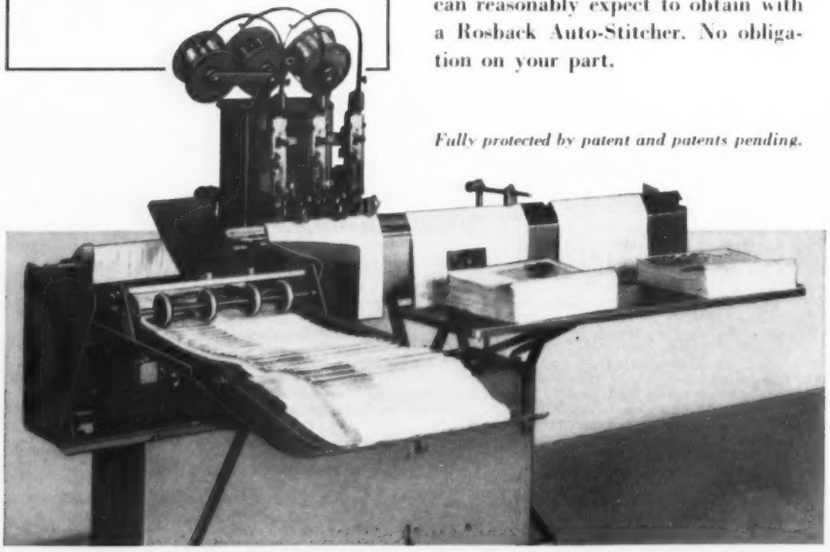
The experience of hundreds of owners of Rosback Auto-Stitchers proves *you* can get *your* stitching costs down to rock bottom.

These owners report an average daily production of stitched books at a rate up to 2500 an hour.

Furthermore, time and labor cost savings (as compared to hand-stitching) can reach as high as $2.00 per thousand books. Many users tell us such cost savings have completely paid for their Auto-Stitchers in a very few months. A Rosback Auto-Stitcher can be your most profitable investment.

Ask us to prove the value of the Auto-Stitcher on your work. Send us samples of your average stitching jobs. We'll gladly give you careful, conservative estimates of the production you can reasonably expect to obtain with a Rosback Auto-Stitcher. No obligation on your part.

Fully protected by patent and patents pending.



The Auto-Stitcher shown here is equipped with a third stitcher head, continuous belt delivery and second feeding station.

F. P. ROSBACK COMPANY • Benton Harbor, Mich.

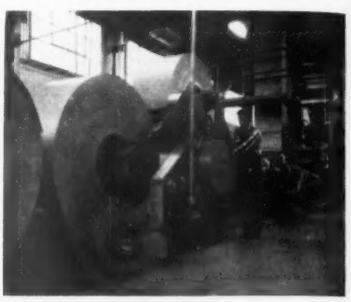
WORLD'S LARGEST MANUFACTURERS OF PERFORATORS, GANG STITCHERS AND PAPER PUNCHING MACHINES

Equipment and Supplies

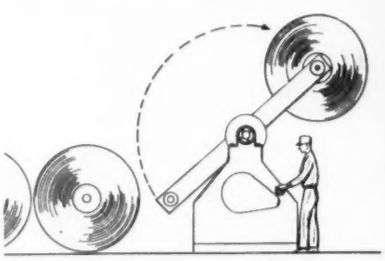
If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.

Turn-Over Roll Stand

Paper rolls up to 70 in. diam. and 45 in. wide may be loaded on the Staude Turn-Over Roll Stand while the press is



running to reduce roll changing time. Announced by E. G. Staude Mfg. Co., Inc., the unit is operated in conjunction with rotary letterpress, rotary offset and rotogravure presses. As one roll is fed into the press, the arm of the unit rotates



to pick up the next roll brought forward by truck or conveyor. The halftone illustration shows a paper roll on the Turn-Over Roll Stand being rotated to feed position on the press. Additional details on this equipment may be obtained by mentioning PEE No. 201 in your request.

Spartan Bold Series

A series of Spartan Bold and its italic, in display sizes 14 to 36 pt., has been added to the Spartan type family by Mergenthaler Linotype Co. Spartan Bold is described as very large on the body to allow emphasis to heads and display with no increase in set width. It is intermediate in weight between Spartan Medium and Spartan Heavy. The Spartan Bold series is designed for use in newspaper heads, foodstore composition and other classes of advertising. Please ask for PEE No. 202 if you desire further details.

(Continued on Page 10)

"Some Reasons Why Printers Prefer Ludlow"

That's the title of the big, new 32-page booklet we have just completed. It outlines in detail some outstanding Ludlow advantages and operating economies which you should know about.

This new booklet graphically illustrates and describes the way in which the Ludlow helps to solve such printing plant problems as type shortages, type breakage, scarcity of spacing material, excessive press make-ready, press work-ups, congested floor space, multiple forms, and ruleform composition—to mention just a few.

As you go through this booklet you will realize some of the reasons why so many progressive printing and publishing firms, specialty printers and others have discarded the old, time-honored typesetting methods and have changed to the improved Ludlow system of all-slug display and job composition.

Send for your free copy of this new 32-page booklet—it will give you a better understanding of Ludlow's contribution to efficient composing room production. It is real information for you.

LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue, Chicago 14, Illinois

Set in members of the Ludlow Tempo family

What's your Gravure I.Q.?

Does your present equipment make the grade? See how it rates with the requirements that are "musts" in modern gravure printing.

FLEXIBILITY

YES NO 1. Can your present gravure press handle *any* type of work, avoiding the need for a number of different models to meet requirements?

YES NO 2. Is your present press so constructed that maximum pressures to print board and difficult materials be obtained *without* damaging your drives and shafts?

YES NO 3. Can you print cellophane and films at 0 lbs. kiss impression?

YES NO 4. Can you obtain and return to these pressures *automatically* ... *without* going from one color station to another and doing it manually?

YES NO 5. Can you lift your impression *without* loss of web tension?

YES NO 6. Can you adjust your press to run its *full* size range *without* the aid of extra-equipment-size feed and pull cylinders or change gears?

YES NO 7. Can you adjust your doctor blade to any size cylinder and to the proper angle of wipe *without* the aid of special equipment?

DESIGN

YES NO 8. Can you *see* what pressures you are printing with so they can be recorded for future references?

YES NO 9. Can you web your press from the floor, *without* using a step ladder or some trick gimmick?

YES NO 10. Do you have fully automatic tension control, to avoid having to rely on brake tension or friction devices?

YES NO 11. Can you purchase interchangeable spare equipment for your press?

YES NO 12. Will your press have substantial resale value after twenty years of operation?

YES NO 13. Does your press have dynamically-balanced, light-alloy idler rollers to reduce web drag?

YES NO 14. Does your press have ample reserve power capacity to handle the increased loads of additional color units or fabricating equipment you may require in the future?

YES NO 15. Can any or all of your units be used for back printing *without* the aid of turning bars?

YES NO 16. Is *all* of your equipment wired to meet the local Underwriter's Code (explosion proof)?

YES NO 17. Can you quickly and easily withdraw the engraving cylinder assembly to the operator's side of the press?

YES NO 18. Is your ink tank mounted in a convenient, out-of-the-working area position, yet fully accessible from the operator's side of the press?

PRODUCTION

YES NO 19. Do you have the *shortest* possible web leads? (Long web leads add to your waste and disturb tension, causing loss of register.)

YES NO 20. Do you have the *maximum* amount of web under the dryers so that most of your web is not dead?

YES NO 21. Can your pressman register the printing units from a single central control panel?

YES NO 22. Does your press deliver face-up, so that sheeter and die cutting operations can be done inline *without* turning the web?

YES NO 23. Are all your normal press operations automatic or push-button controlled, thereby eliminating the necessity for an experienced pressman to "judge" the adjustments.

SERVICE

YES NO 24. Are *local* service offices readily available to provide maintenance and spare parts for your impression system equipment?

YES NO 25. Are factory-trained servicemen available to aid you in installation, maintenance, and technical problems?

SUPPLIER RELATIONS

YES NO 26. Do you think your present presses are engineered with *your needs* in mind rather than engineered to increase the manufacturer's margin?

YES NO 27. In your experience, have you found that your supplier did *not* forget you after he had completed the sale?

YES NO 28. Would you want *more* of his equipment?

YES NO 29. Can he supply you with a *full* line of converting equipment, thereby avoiding a "pieced-together" press to do your inline work?

YES NO 30. Does your supplier have a solid background of experience in building this type of equipment?

YES NO 31. Does your present supplier furnish *all* the main press components and manufacture a *complete* line of auxiliary equipment, eliminating divided responsibility?

IN BUYING EQUIPMENT

YES NO 32. If you had it to do again, would it now be your opinion that a stripped press, lacking in automatic and centralized control features, would result in higher operating cost?

If you can answer "YES" to *all* these questions, you *must* own — or plan to purchase —

CHAMPLAIN GRAVURE PRESS EQUIPMENT

Champlain

Champlain manufactures a complete line of rotogravure, flexography, rotary letterpress and allied equipment for packaging and specialty printing.

3402

Write today for your copy of "Rotogravure." It's a 78 page text book on the subject. Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N. J. Chicago Office: 520 N. Michigan Avenue, Chicago 11, Ill.

MERCURY PRODUCTS

IN TUNE WITH YOUR REQUIREMENTS

Tune up your presses with the rollers and blankets designed to harmonize with *your* needs. Tailor-made to your own specifications, and developed in collaboration with leading press and ink manufacturers—these accessories and your equipment were meant to "make beautiful music together". Specify MERCURY Rollers and Blankets every time.

RAPID ROLLER CO.

FEDERAL AT 26TH ST. • CHICAGO 16, ILLINOIS

Equipment & Supplies

(Continued from Page 6)

Folding Spatulas

Gardner Laboratory, Inc., has designed a spatula the blade of which may be folded within the handle when not in use to permit carrying in coat or apron pocket. The blade is opened from its monel sheath in the same fashion as a jackknife and when placed in the extended position the blade is locked in place. Sponsor claims operation of the blade is not affected should ink happen to work into the center section of the sheath. The entire folding spatula may be immersed into any solvents normally used for cleaning such tools without affect. The folding spatulas are available with carbon steel round end blades and stainless steel blades. Blade sizes range from ½ in. by 3 in. to 1¼ in. by 8 in. Please mention PEE No. 179 if additional information is desired.

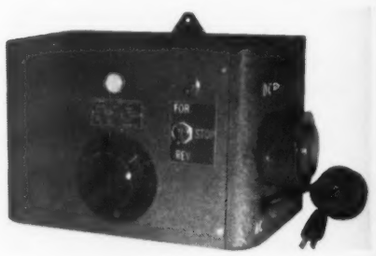
Letterhead Logic—Make your letterhead pay you a profit, is the theme of the brochure Letterhead Logic, recently published by R.O.H. Hill, Inc. In it is a letterhead check list for evaluating the effectiveness of your letterhead, and samples of the letterheads used by leaders of business and industry. It is offered gratis to users of 5000 or more letterheads a year. Address requests to R.O.H. Hill, Inc., 270 FP Lafayette St., New York 12, N. Y.

Saddle Stapler

The nuisance of interrupting the job on a stitcher or waiting until the end of a run, and perhaps changing the adjustment, just to stitch one or two dummies, can now be eliminated with the Model B8S saddle stapler, say officials of Bostitch. The stapler is built with a small stapling head mounted on a specially-formed saddle base. The saddle is 5 in. long and the base is curved at the back so that wide pages will roll up, permitting the stapling of pages up to 12 in. in width. The front of the base is equipped with a rubber foot. The machine is finished in black enamel and chromium. It is loaded with a strip of preformed staples with ¼ in. legs for stapling booklets, folders, dummies, programs, etc., from eight pages to 128 pages of medium weight stock. Please mention PEE No. 196 when making further inquiries.

Variable Voltage Rectifier Units

The manually operated, self contained variable voltage rectifier units announced by American Rectifier Corp., are designed for converting any ordinary d.c. motor into a variable speed motor from 0 r.p.m. to rated speed or above. Two types are available as follows: Single phase input from ½ h.p. to 3 h.p., and three phase input from ½ h.p. to 75 h.p. The single phase units can be plugged into any a.c. outlet and can also be equipped with reversing switches as part of the control. The speeds on all units are controlled by a single knob. Known as Variable Voltage Selenifiers, they are available for either 50-60 cycle input at any input voltage, and d.c. output voltages of 115, 230, 250 or 440. The Selenifiers are self-protected and are equipped with a pilot light which lights when the rectifier is on. For additional details, please mention PEE No. 199 in your request.



Printing Ink Remover

A nonflammable printing ink remover has been developed by the Gilbreth Com-

(Continued on Page 14)

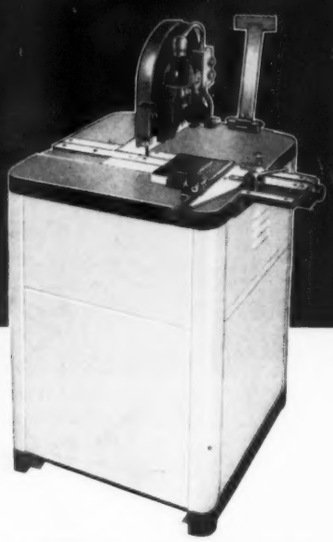
NOW!

TWO ROUSE TIME-SAVING

PLATE SAWS

With Exclusive Automatic Feed

For Photoengravers, Stereotypers, Printers



No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (*on Both Models*)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.

2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.

3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.

4. New simplified gauge adjusting device makes it easier to maintain perfect squareness in cutting.

DESIGNED BY MEN WITH 25 YEARS KNOW-HOW IN BUILDING BAND SAWS FOR PRINTERS

Write for complete details TODAY!

H. B. ROUSE & COMPANY
2214 North Wayne Avenue, Chicago 14, Illinois

ROUSE PRODUCTS...The Standard of the World Since 1899

Staude "1000"

ROTOGRAVURE PRESS

COMPLETE INLINE EQUIPMENT FOR CARTONS . . . WRAPPERS . . . LABELS

- *Designed to run at 1,000 ft. per min. . . .*
- *Integral assembly for fast changeover . . .*
- *Printing width: 26" to 42" . . .*
- *Circumference: 23" min.; 46" max. . . .*

Heavy duty design . . . exclusive doctor blade mounting for easy accessibility . . . 360° running register . . . frictionless ball bearings used throughout . . . color units on individual bed plates . . . additional units easily added at any time . . . fast makeready changeover time. These are only a few of the features that add up to more profitable volume for your plant. A Staude representative can show you how you can improve plant efficiency with the "1000".

E. G. Staude MFG. COMPANY, INC.

2675 UNIVERSITY AVENUE
ST. PAUL 14, MINNESOTA

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INK
FINENESS OF GRIND GAGE

IPI Ink experts use this extra safeguard to prevent ink "fill-in"

This precision gage measures the fineness of pigment grinds. With it, IPI ink men can be sure that each batch of ink is free of oversize pigment particles. With it, we can produce smoother inks for sharper, cleaner printing.

This gage is an added IPI safeguard to prevent ink fill-in of fine-screen halftones for best results from your engravings. It detects immediately any coarse, oversize pigment particles which might clog a halftone screen or fine type matter.

Quality control is the watchword in all IPI ink-making operations. The fineness of grind gage is just one of the many precise instruments used by IPI to give you the right ink for each job . . . ink that will print best on a particular stock with a given make and style of press. It is an important check on all types of ink whether for letterpress, offset lithography or flexography . . . for package and fibre board printing as well as for the most delicate line and halftone work.

IPI service at work for you

IPI complete ink service facilities are at your disposal in printing centers from coast to coast. Local IPI service stations and branches are staffed by local people who know your special printing problems intimately and are ready to help you solve them. That's why you can always rely on IPI for ink service that will help make your printing better. Don't fail to call on us!

IPI and IC are trademarks of Interchemical Corporation

nterchemical Corporation
RINTING INK DIVISION • 67 W. 44th ST., NEW YORK 36, N. Y.

ELY ON IPI FOR LEADERSHIP IN INK RESEARCH

Equipment & Supplies

(Continued from Page 10)

pany for removing dried ink from all metal parts including aluminum and white metal. Sponsor states the remover contains no abrasives and may be applied to any surface without harmful effects. It is also claimed the Gilbreth Remover will remove any thickness of dried ink when soaked for the proper amount of time. Used as a degreaser, it will remove lacquer, hardened carbon, rust, adhesives, tar, cosmoline and other coatings, according to the manufacturer. Further claims made by Gilbreth are that the remover is nontoxic and will not irritate the skin or cause harmful body effects. It is available in quarts, gallons and drums. For further details, please mention PEE No. 177 in your request.

Tabbing and Multiple Hole Punching Machine

A Tabbing and Multiple Hole Punching Machine designed for tab cutting 1 in. lifts of paper, leather, fabrics, light metals, plastics, etc., has been announced by Southworth Machine Co. Besides tab cutting, the foot-power machine is also usable for punching several holes at one time of any desired shape, round cornering and straight line cutting. Tabbing knives are adjustable for cutting tabs from 0 in. to 6 in. in length and ⅜ in. or ½ in. in height. Holes may be punched up to 20 in. apart, center to center on lifts of material up to ¼ in. in thickness. A built-in rule is designed for setting of center to center distance of holes. Other features

of the machine include a side gauge for stock alignment and built-in waste drawer for catching punched out chips.

Additional information is available by referring to PEE No. 183 in your request.

Gum Stocks Developed

Three new gum stocks have been produced recently by Goodyear Tire & Rubber Co., according to E. R. Coate, Mgr., Printers' Supplies Dept. of the company. One-fourth in. Hard Buffed Rubber Back Engravers' Gum, made only in black face, is made with a hardness range between 20-25, holding to a close tolerance on the overall gauge to eliminate makeready time on presses, sponsor states. For corrugated box printers is a 30-35 Hard ¼ in. Buffed Rubber Back Engravers' Gum. A Soft Box Die Unvulcanized gum for molding plates, known as SN20B Super Soft, also is made with a hardness range of 20-25 to insure longer mileage and less press makeready time, it is claimed. Further information may be obtained by requesting PEE No. 173.

Leshner Wipers

Leshner Downy-Soft Wipers, a lightweight, absorbent, lintless, disposable nonwoven fabric for commercial and industrial use, has been placed on the market by the Leshner Corporation, according to Pres. B. J. Petricoff. Sponsor claims the white fabric is adaptable for washing and cleaning glass in addition to general industrial dusting, wiping and polishing. The product is shipped in 25 lb. cartons, loosely packed so it retains its soft finish, Petricoff said. He states the wipers may be used, rinsed and re-used. Please mention PEE No. 191 when inquiring for further information.

Potdevin Releasing Agent — Potdevin Machine Co. is offering a releasing agent, M 12 Release-Cote, to users of adhesive-applying and coating equipment. Sponsor reports its use cuts clean-up time, prevents adhesive or other coating materials from adhering to the exposed surfaces of pots and rollers and prevents build-up on journals and side scrapers. It is applied to cleaned metal surfaces before filling the machine with the adhesive, using a brush, rag, sponge or spray equipment. Excess can be wiped

(Continued on Page 22)

3 *things to* REMEMBER

EASTERN service quality economy

EASTERN SERVICE is **good** service . . . fast, reliable, accurate

EASTERN QUALITY is **high** quality . . . tested and guaranteed

EASTERN ECONOMY is **real** economy . . . proved by production-cost ratios

These Eastern products can eliminate many newspaper production headaches in your plant. Try them!

DOUBLE COATED CUT MOUNTING TAPE

Scotch or Plate-Tak, for mounting any type cut on wood or metal base. Widths of ¼", ½", 1", and 2".

FLECTO GUMMED BACKING FELT

A top quality, pliable felt that shrinks with the mat, and is uniform in gauge. Cellophane sealed, moisture-proof packages.

ROSIN WEB SPLICING PASTE

Order LIGHT for Summer use. Available in 1, 5, and 10 gallon cans.

ORDER FROM THE NEW EASTERN CATALOG No. 12. IT LISTS HUNDREDS OF EQUIPMENT AND SUPPLY ITEMS FOR BETTER PRODUCTION OF A BETTER-LOOKING NEWSPAPER!

ENS EASTERN FOR ECONOMY

EASTERN
NEWSPAPER SUPPLY, INC.
96-03 NORTHERN BLVD., CORONA 68, NEW YORK

CUT PLATE MAKING EXPOSURE TIME IN HALF

"Cut printing time in half". (Los Angeles platemaker.) "Exposure time on photo-composing plates cut in half. With less than perfect contact a good image is retained." (Large industrial company). "Doubled capacity in making plates." (Indianapolis lithographer).

"The saving in current has probably paid for the lamp." (Waco platemaker)

"The voltage control mechanism assures **MAXIMUM EFFICIENCY AT ALL TIMES"** (Pittsburgh platemaker)

"CLEARER, SHARPER REPRODUCTION"

"Eliminate dot undercutting by crossover of reflected light rays." (San Francisco platemaker)

And In the Camera Gallery

"UNIFORM COVERAGE OF LARGE AREAS" (Louisville printer)

"NO FLUCTUATION IN LIGHTING"

"Eliminate illumination variable in accurate control of densities, regardless of line voltage variations." (St. Louis printer)

POWERFUL

"Punch through dense Kodachromes." (New York platemaker)

CONSTANT COLOR TEMPERATURES

"We wonder how we got along without it for so long." (Salt Lake lithographer)

PRECISE CONTROL OF INTENSITY ON STEP AND REPEAT MACHINE

"One of the best investments we've ever made." (Phoenix platemaker)

"TROUBLE-FREE OPERATION WITHOUT SHUT-DOWN TIME"

(A leading map maker)

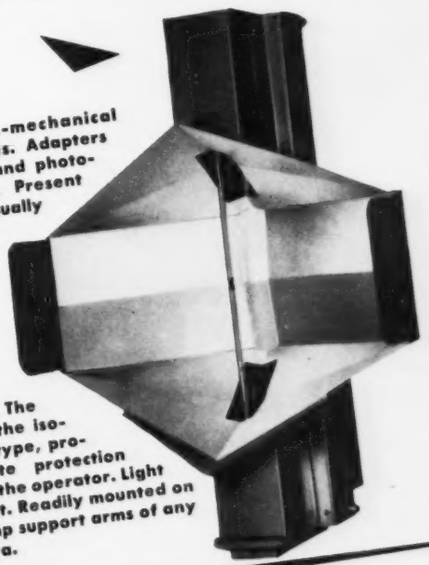
Strong

GRAFARC

Fully Automatic, High Intensity

ARC LAMPS

"Mechanical feed system saves time. Makes job easier." (Buffalo platemaker)



Models for all photo-mechanical reproduction processes. Adapters to fit most cameras and photo-composing machines. Present line supply wiring is usually adequate.

See the amazing new, low-cost Grafarc Challenger Camera Arc Lamp. A vertical trim lamp which burns at 75 amperes and 23 volts at the arc. The transformer is of the isolated secondary type, providing complete protection from shock to the operator. Light in weight. Readily mounted on the lamp support arms of any camera.

THE STRONG ELECTRIC CORPORATION

307 CITY PARK AVENUE — TOLEDO 2, OHIO

Please send free literature on Strong Grafarc Lamps.

NAME _____

FIRM _____

STREET _____

CITY & STATE _____

NAME OF SUPPLIER _____

THIS MAN

can put extra profits into every job you run

He is your Heidelberg Sales Representative, waiting to tell you the full story of Heidelberg's 33 profit-making "Future Features." Let us set up an appointment for him to see you soon. Just drop us a card, today.

FIRST SHOWING
of the Original Heidelberg
13 NEW "Future Features"

ORIGINAL HEIDELBERG
THE BEST THING NEXT TO A PRINTER

HEIDELBERG DISTRIBUTORS

HEIDELBERG WESTERN SALES CO.
118 E. 12th St.
Los Angeles 15, Calif.

HEIDELBERG EASTERN INC.
45-45 Thirty-Ninth St.
Long Island City 4, N.Y.

HEIDELBERG SOUTHERN SALES CO.
120 N. Sampson St.
Houston 3, Texas

HEIDELBERG SALES AND SERVICE

Columbus 15, Ohio; Chicago 16, Ill.; Atlanta 5, Ga.; Kansas City 6, Mo.; Minneapolis 15, Minn.; Denver 2, Colo.; Salt Lake City, Utah; San Francisco 3, Calif.; Seattle, Wash.; Portland, Ore.

ATF announces AQUA-TROL

AQUA-TROL ON ATF CHIEF 29

one of the most beneficial developments in recent years

- *strengthens color*
- *extends plate life*
- *reduces spoilage*
- *speeds ink drying*
- *increases profit*

EXCLUSIVE...

American Type Founders announces a world-wide exclusive sales agreement for Aqua-Trol (patent pending) with Interstate Offset Products Co. of Houston, Texas.

Aqua-Trol is considered by ATF to be an answer to problems of ink and moisture balance on offset presses and a major advancement toward consistent color and quality control, which is the current theme of all lithographic developments.

Units are available with brackets for simple installation on all offset presses from 10″ duplicator to 76″ multi-color.

When using Aqua-Trol, an automatic equilibrium between inking and dampening systems is maintained which remains constant even during changing room conditions.

An Aqua-Trol unit pays for itself in a very short time by increasing production, improving quality, and saving ink and paper. All inks print with more strength of color and dry more quickly because Aqua-Trol removes excess moisture.

Aqua-Trol at work in the lithographic industry will help give it the stability of letterpress and the tone quality of rotogravure with the flexibility of offset production.

Better, more profitable printing from the widest line of processes . . .

GRAVURE . . . LETTERPRESS . . . OFFSET

ATF

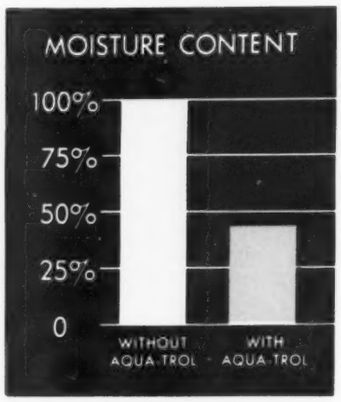
AQUA-TROL

AMERICAN TYPE FOUNDERS — 200 ELMORA AVENUE, ELIZABETH, N. J.
A Subsidiary of Daystrom, Inc.

See AQUA-TROL proof on next page . . .

Why AQUA-TROL *works!*

When ink rollers contact a properly moistened plate, there is a transfer of water into the inking system. The amount of water so transferred is dependent upon several variables, such as: 1) kind and condition of plate, 2) kind and size of paper, 3) type of ink, 4) condition of dampening rollers and 5) driers or wetting agents in fountain solution.



Aqua-Trol continuously removes this moisture from the ink by controlled evaporation, thus preventing emulsification. As the chart shows, Aqua-Trol removes over half the moisture present in the ink, even when the best balance exists without Aqua-Trol. In other words, when a skilled pressman has achieved an ink-water balance to the best of his ability, he can use Aqua-Trol to remove over 50% of the still-present moisture! Of course, if more than a minimum amount of moisture is present, the Aqua-Trol unit automatically evaporates more—always keeping the ink free of moisture and in a more perfect printing condition than is possible without Aqua-Trol. See your ATF salesman about the many production and quality advantages that are yours with Aqua-Trol — or mail the coupon below for complete information.

what it can do for you

SPOILAGE REDUCED Since ink color is brought up with fewer run-in sheets and there are less waste sheets during run, spoilage is often reduced 75% . . . the loss being as few as two or three sheets on many jobs.

FASTER INK DRYING Ink made moisture-free by Aqua-Trol dries faster on paper. As jobs can be backed up or trimmed much sooner than without Aqua-Trol, production is increased.

BETTER INK CONTROL Black ink prints jet black . . . colors print strong, bright and consistent throughout press run, saving ink and producing better quality.

PLATE LIFE INCREASED Through reduction in the water content of the ink, plate life is increased two to three times.

A UNIT FOR ANY PRESS Units are available for all sizes and types of offset presses—from duplicators to large multi-colors.

EASY INSTALLATION Standard bracket assemblies enable you to mount unit on any press—without drilling—in a few minutes.

QUICK AVAILABILITY Stocks of units for all presses are now available for immediate delivery from all ATF branches. Act now!

LOW COSTS Aqua-Trols are priced at $181.50 up—depending on the size of unit needed.

ATF

AMERICAN TYPE FOUNDERS

200 ELMORA AVE., ELIZABETH, N.J.

PLEASE SEND AQUA-TROL LITERATURE AT ONCE TO:

NAME _____

MAKE AND MODEL OF PRESS _____

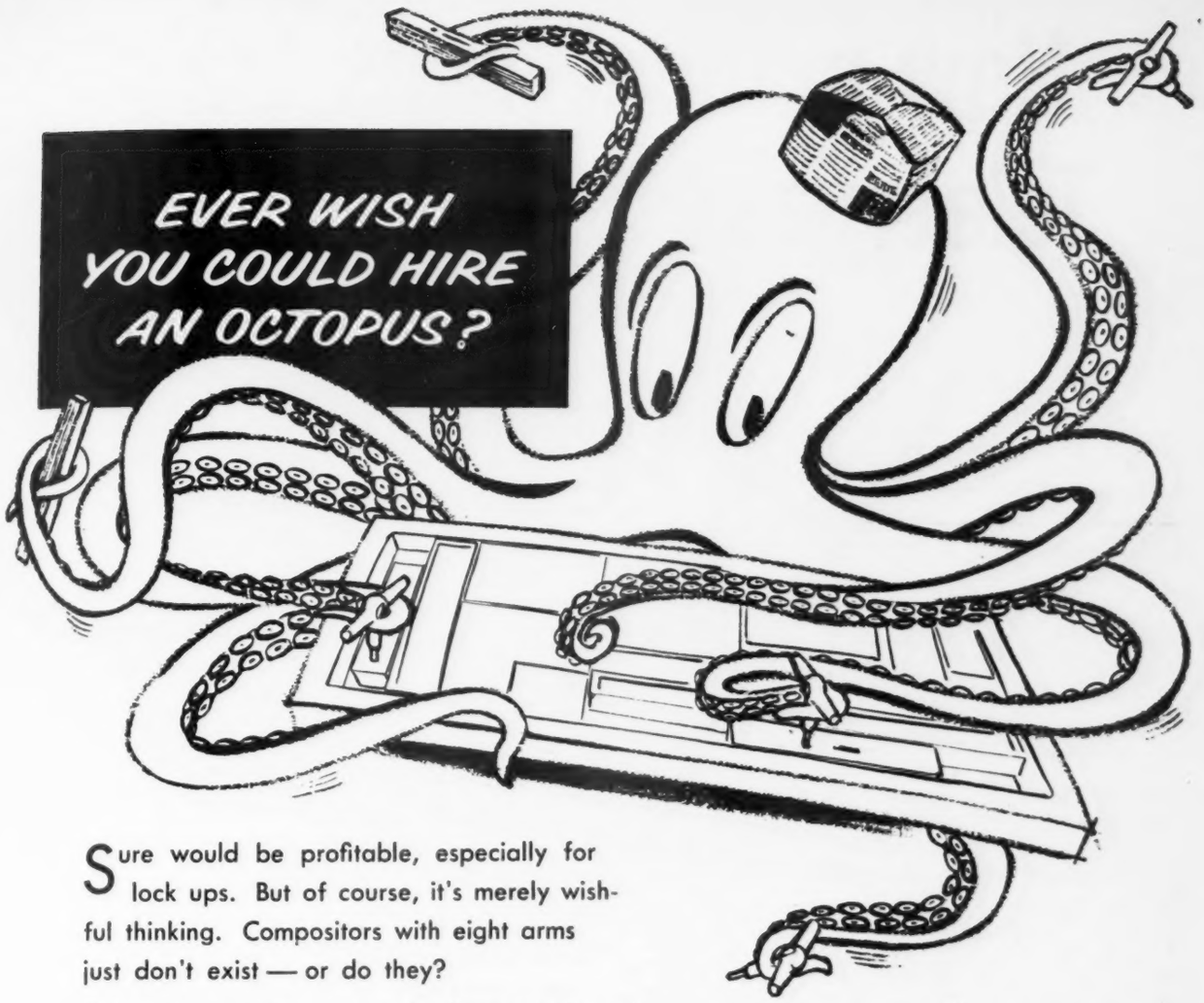
COMPANY _____

ADDRESS _____

CITY- STATE _____

ATF-1-PEE

PRINTED IN U.S.A.



Sure would be profitable, especially for lock ups. But of course, it's merely wishful thinking. Compositors with eight arms just don't exist — or do they?

Take a compositor using Challenge Hi-Speed Quoins. He doesn't have eight arms — but he couldn't lock up those forms any faster were he so equipped. *The Hi-Speed Quoins are his extra arms . . .* each a self-contained unit with a series of quoins operating under one key! Expansion is direct, uniform and powerful — without reglets, without workups!

So the next time you get to daydreaming about increasing the efficiency of your pressroom — be realistic. Don't wish for an octopus. Get Challenge Hi-Speed Quoins — and get results!

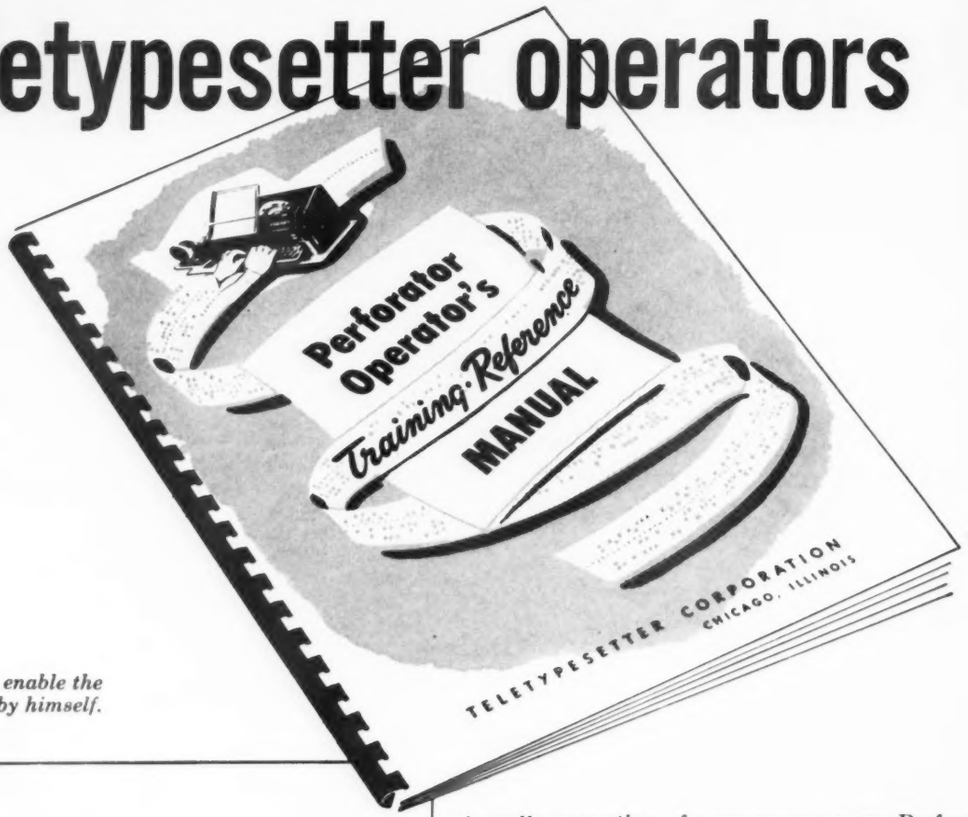
758

CHALLENGE® HI-SPEED QUOINS

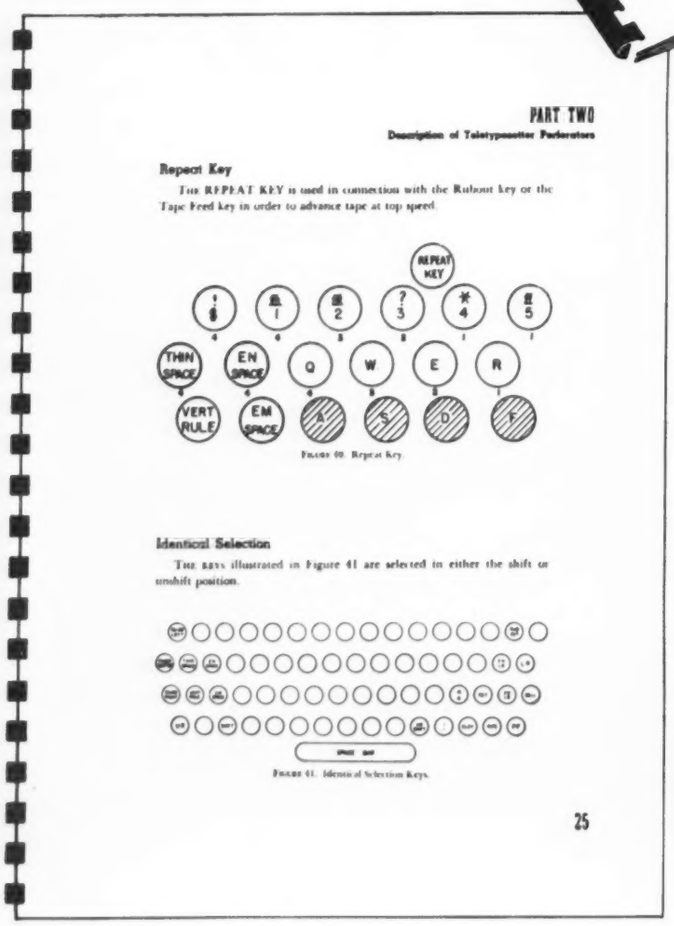
Made in seven sizes. Write for full details.

THE CHALLENGE MACHINERY CO.
Office, Factories and Show Room:
GRAND HAVEN, MICHIGAN
DEALERS IN ALL PRINCIPAL CITIES
Challenge Owns The Printing Equipment Manufacturing Rights of *Morgans & Wilcox Manufacturing Co.*

New manual helps train Teletypesetter operators



Simple illustrations enable the individual to learn by himself.



PART TWO

Description of Teletypesetter Perforators

Repeat Key

THE REPEAT KEY is used in connection with the Rubout key or the Tape Feed key in order to advance tape at top speed.

REPEAT KEY

THIN SPACE | EN SPACE | Q | W | E | R

VERT RULE | EM SPACE | A | S | D | F

FIGURE 40. Repeat Key

Identical Selection

THE KEYS illustrated in Figure 41 are selected in either the shift or unshift position.

FIGURE 41. Identical Selection Keys.

25

Actually, operation of a TELETYPESETTER Perforator is simple enough to be mastered in a short time by almost any competent touch-typist.

With this new manual in hand, a beginner ought to be able to produce useable tape a day or two after starting instructions and be able to produce over 400 lines per hour after only six months of experience.

Though the manual is written primarily for the individual, it is an invaluable aid to the supervisor or instructor who is establishing a training course on the subject.

Publication of this manual is just another effort by the Teletypesetter Corporation to do everything it can to help operators achieve the highest level of production in the shortest possible time.

Copies of the *Perforator Operator's Training-Reference Manual* have been sent free-of-charge to present users of TELETYPESETTER apparatus and in the future copies will be supplied with each Perforator sold.

Additional copies may be obtained at $1.50 (cost plus handling charges) each by writing to Dept. E4, Teletypesetter Corporation, 2752 North Clybourn Avenue, Chicago 14, Illinois.

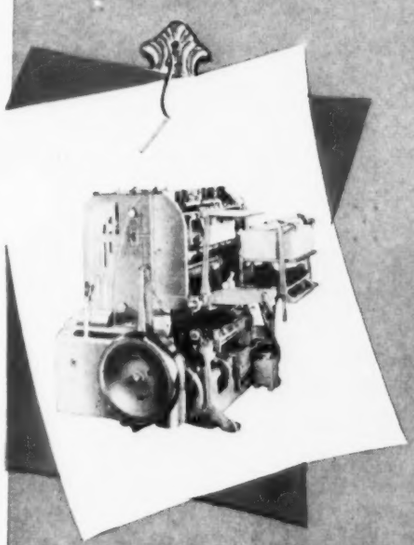
TELETYPESETTER

Brown hasn't...

Green has...

Work for Today
20,000 Price Lists - Blake Agency
1500 2 Color Menus - Bill
10,000 Folders - Superior Cleaners
500 Business Cards - J.W.H.
5,000 Invoices for Tri-State
15,000 Catalog Sheets - Jim
1,600 Broadsides - Claytons
1,000 Letterheads - P. Dozier Co.
3,000 Envelopes - Wm. Smith
1,500 Purchase Orders - Jones
2,000 Mailing Cards - Jones
How?

the Miehle Vertical



Printer Green's shop is loaded with work—work that is made up of a lot of small jobs, the runs are short and the stock is varied. It doesn't take a great deal of selling effort to get small jobs into the plant—but it does take a lot of know-how to keep them.

On the other hand, business has been pretty tough for Printer Brown. He, too, gets small jobs into his plant all the time—but he can't seem to keep them for long. His business has been rapidly going downhill for some time. It's not that he lacks ability, but faced with rising costs and trying to operate troublesome slow equipment has just about pulled him under.

Green is set up to handle the small jobs—and keep them, too. He likes them and finds them a very profitable business. He wisely invested in the right equipment—a Miehle V-50 Vertical. To the Vertical, it makes no difference what the jobs are like—type forms or color work—light or heavy stock—long runs or short. The combination of quick changeover and easy makeready together with high running speeds make the Vertical the busiest press in Green's plant. It can be in yours, too.

Miehle Printing Press & Manufacturing Company | **Chicago 8, Illinois**

ENGINEERING REPORTS:

Oakland Tribune's new G-E electronic press drive accelerates smoothly, reduces web breaks

Powered through electronic control, 10 G-E d-c drive motors rolled the Oakland Tribune's new Hoe Press for the first time early in March, 1953.

A G-E Service Engineer worked closely with the ***Tribune*** and on the day following final mechanical adjustments, March 13, the first edition came off this 50,000 pph press. Since that time it has been in continuous operation.

Joining a long list of newspapers using the G-E Electronic Press Drive, the ***Oakland Tribune*** is now taking advantage of this drive's flexibility and smooth operating characteristics. Like the other newspaper publishers across the country using this electronic press drive, the ***Tribune*** realizes that —

1. The smoothness of operation, both starting and stopping, results in fewer web breaks and more production.

Stepless speed adjustment eliminates web-breaking jerky speed jumps. The press climbs from threading to full-speed smoothly and easily. When stopping, dynamic braking on each unit brings the press to a smooth stop. The cost of brake adjustment and maintenance is eliminated.

2. The wide variety of press combinations makes this an extremely versatile and flexible drive.

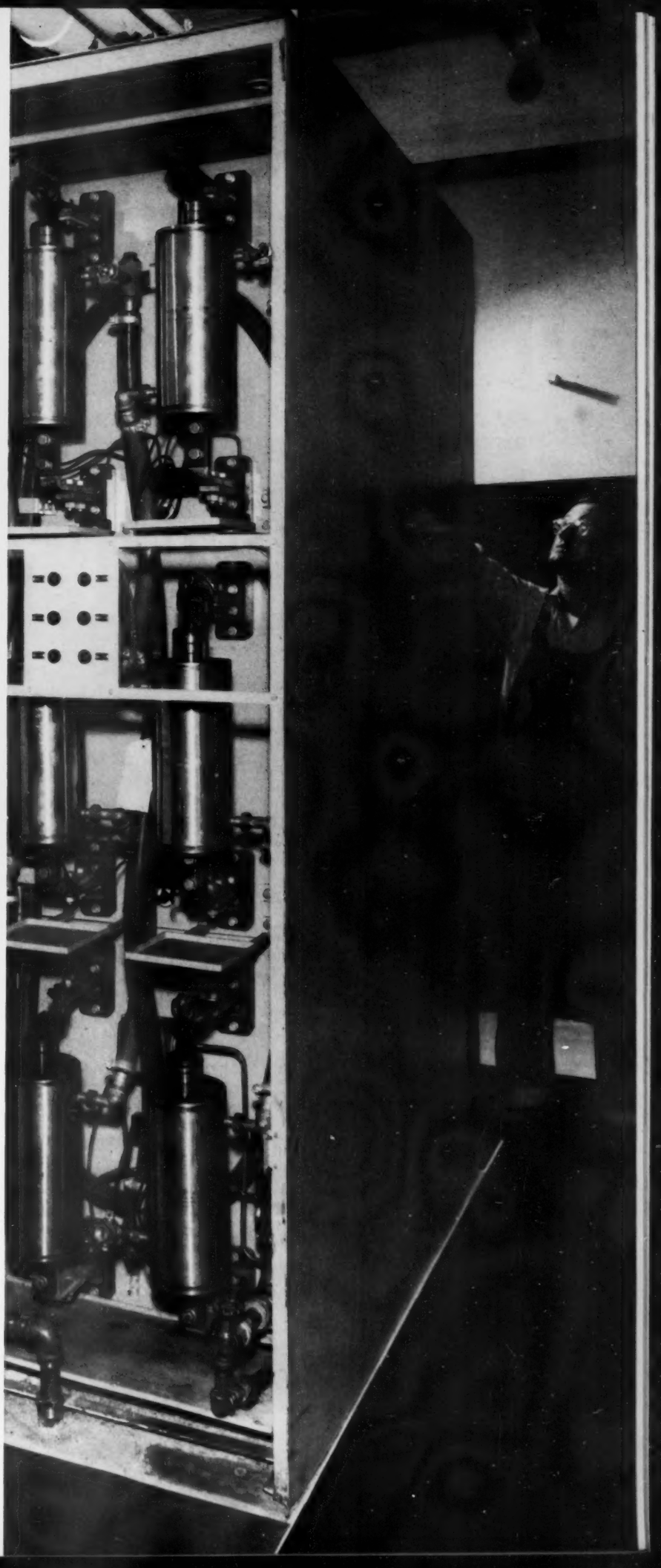
With an individual drive motor for each press unit and folder, each motor handles threading, inching, running, and braking for its unit. Since any combination of press units can be arranged, the ***Tribune*** can meet varying production schedules as well as possible color runs.

Besides flexibility, the individual drive system is "production insurance." In the event of motor failure, two-thirds of the motors will operate all units of the press at above two-thirds speed.

Investigate this modern drive for use on your newspaper press. G.E.'s application and sales engineers will be glad to discuss it with you. Contact your nearest General Electric Apparatus Sales Office or write for Bulletin GEA-5523. General Electric Company, Section 653-33, Schenectady 5, N. Y.

GENERAL ELECTRIC

All power requirements are handled on the Oakland Tribune's new Hoe Color Convertible Press with 10 individual G-E drive motors. Individual adjustable-speed drives on each press and folder unit eliminate the need for slow motion motors, over-running clutches, and drive and press brakes. Fire hazards are reduced, maintenance costs lowered by force ventilating of motors.



Giving the Oakland Tribune economical flexibility and close speed control, the ignitron rectifier controls and powers the drive. Operating to supply adjustable voltage to the motor, these units are designed in "building-block" fashion to accommodate future units. All components are easily accessible through full front and back doors.

Equipment & Supplies

(Continued from Page 14)

off. At clean-up time the coated areas can be cleaned with warm water or a simple water rinse. Rubbing a small amount of Release-Cote on the hands will prevent the adhesive from sticking to the skin. According to the sponsor, there are no harmful irritants or fumes in the mixtures. Release-Cote is available in qt., gal. and 5 gal. containers. Please mention PEE No. 187 when writing for further details.

Dry Powder Aerosols

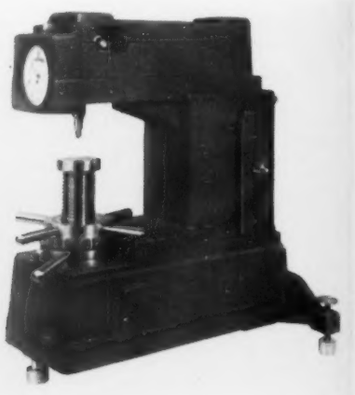
Pushbutton dispensing of dry powders from a self-pressurized aerosol container has been developed by E. I. du Pont de Nemours & Co. Among the first dry powder aerosol products is a zinc stearate mold release for use in the plastics industry developed by Injection Molders Supply Co. The sponsor claims this type of applicator permits a uniform, less wasteful dusting of the mold. Specially shaped tips on a removable spray head of the aerosol container permit adjusting the spray pattern to specific jobs. Dry graphite lubricants are also available in aerosol containers. Further information on the dry powder spray mold release may be obtained by asking for PEE No. 185 in your request.

Hardness Testing Instrument

An instrument designed for making both regular and superficial Rockwell hardness tests on many products used in the Graphic Arts has been developed by the Torsion Balance Co. Designated the Kentrall Hardness Tester, the instrument is used in making regular Rockwell tests (60, 100 and 150 kg. loads) and superficial tests (15, 30 and 45 kg. loads) with any suitable standard C, N or ball type indenter. Readings are taken from a dial gauge equipped with a single numerical scale.

Minor and major loads are applied by dead weights. Stops inserted on the sides of the column facilitate changes in test loads. The major load being used is indicated by the location of the stops.

For operation convenience, such controls as the elevating-screw handwheel,



gauge-setting bezel, load-tripping and load lifting mechanism are located in the front side of the base. Leveling screws are built in the three-point base. Kentrall Hardness Testers are available in several vertical capacities.

Standard equipment supplied with each tester includes all weights for regular and superficial testing, 1/16 in. diam. steel ball indenter, four anvils and eight test blocks. When requesting further details, please mention PEE No. 174.

Illuminated Reading Glass — A lightweight, rectangular reading glass with built-in illuminator has been announced by Bausch & Lomb Optical Co. The instrument is equipped with a 3¼ in. by 1⅞ in. white ophthalmic glass lens in a

black molded frame. It may be operated from a 110-115 v. outlet and should be used approx. 9 in. from the eyes, sponsor states. Further information will be furnished upon request. Please mention PEE No. 186.

(Continued on Page 24)

3 GREAT INKS

SNAP-SET
The miracle ink. Dries instantly on paper. Stays open on press.

★

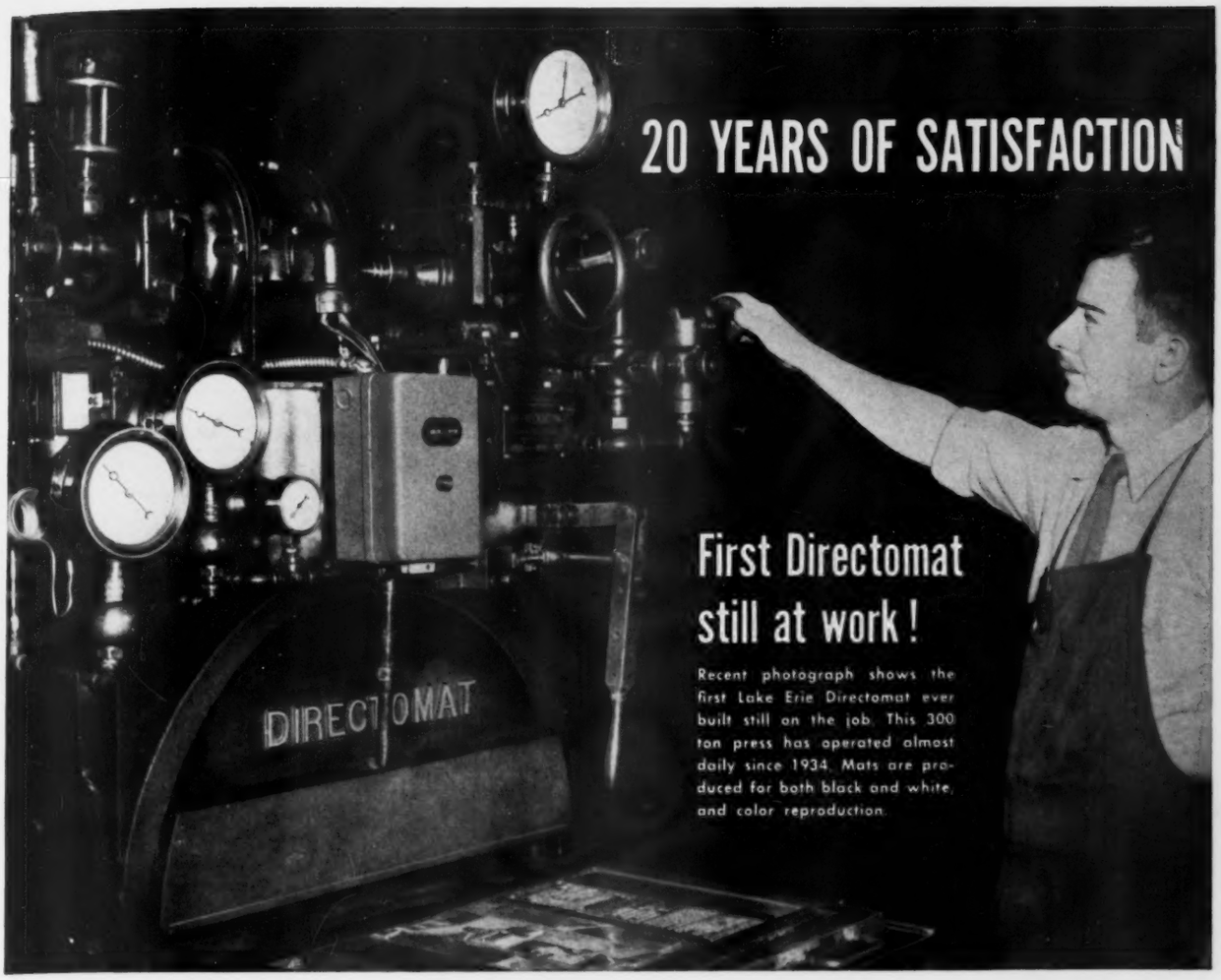
Flintglo
High gloss on coated papers, plus perfect press performance.

★

FLINT-SET
A happy medium between Snap-set and Flintglo. Quick drying semi-gloss.

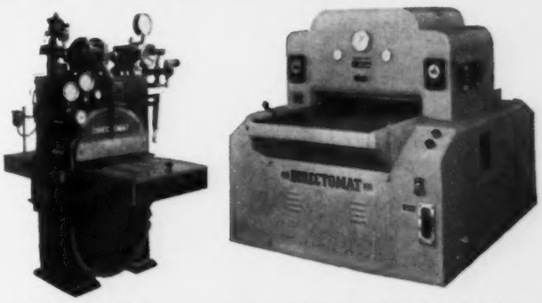
All three grades ready for immediate shipment in your choice of black and all colors.

Howard Flint Ink Co.
Printing and Lithographic Inks
ATLANTA · CHICAGO · CLEVELAND · DENVER · DETROIT · HOUSTON
INDIANAPOLIS · LOS ANGELES · MINNEAPOLIS · NEW ORLEANS · TULSA


20 YEARS OF SATISFACTION
First Directomat still at work!
Recent photograph shows the first Lake Erie Directomat ever built still on the job. This 300 ton press has operated almost daily since 1934. Mats are produced for both black and white, and color reproduction.
DIRECTOMAT

DIRECTOMAT praised by HARPELL'S PRESS CO-OPERATIVE

"Twenty years of continuous, dependable service . . . thousands upon thousands of quality mats produced . . . negligible expenditures for maintenance." That's the way Harpell's Press Co-operative of Gardenvale, Quebec, summarizes its years of satisfaction with *the first Directomat ever built*. This first Directomat, and the latest 1000 ton model, are compared at the right to show the big improvement in design that has occurred in 20 years. Naturally, the newer Directomats have features undreamed of even a few years ago. Let us tell you about them. No obligation.



• Nearly 300 Directomats serve newspapers and commercial plants in the United States, Canada and 9 other countries. 7 out of the 10 leading newspapers in ROP color advertising use Directomats. For mats with uniform quality . . . and for accurately registered color mats . . . Directomat has no equal. Write for Bulletin 349.

LAKE ERIE HYDRAULIC PRESSES

LAKE ERIE ENGINEERING CORP.

General Offices and Plant

568 Woodward Avenue, Buffalo 17, New York

District Offices in NEW YORK • CHICAGO • DETROIT • PITTSBURGH

Representatives in Other U.S. Cities and Foreign Countries

• Leading manufacturer of hydraulic presses for all industry . . . 3,500 designs from 5 to 22,000 tons capacity—rubber and plastic plate molding . . . newspaper mat molding . . . plastics molding . . . rubber vulcanizing . . . laminating . . . metal working . . . forging . . . metal extrusion . . . wallboard and plywood . . . die casting and special purpose.

LAKE ERIE ® DIRECTOMAT ®

RAMSEY

with the most unique (and imitated) chain joint in the Industry

the only silent chain drive

that enables chain speeds up to

8000 fpm, with no special means of lubrication

The dependable and proven Roller Bearing Compensating Joint. Designed by Ramsey to reduce chordal action and permit high speed operation. Note its **line contact** between the flat surface of the link and the flat surface of the tooth. Link rolls smoothly into position on tooth, eliminating heat, noise, vibration.

An unretouched photograph of a typical Ramsey Drive. At high speed note its smoothness and lack of vibration. Only the Ramsey joint allows the chain links to follow such a true path tangent to the pitch diameter of the sprocket.

The revolutionary Ramsey chain joint design, first announced in 1923, immediately made possible unprecedented high speeds. Today Ramsey chain drive is still the leader where high speed transmission and small driving sprockets are essential.

The *rolling action* of the Ramsey joint cuts out noise, vibration, friction, heat, and wear. Its large size permits the greatest degree of articulation, which in turn permits use with extremely small pinions – in some cases as small as 15 teeth, further enabling ratios as small as 10 to 1 in limited space.

All this without oil pump, slingers, or anything beyond a simple drip feed oil cup.

Driving pinion speeds go up to 6000 rpm for 3/8 pitch chain . . . 4000 for 1/2 pitch, 3600 for 5/8 and 3/4 pitch . . . 2800 for 1 pitch . . . 1400 for 1 1/2 pitch.

The bulletin "Ramsey Chain Drives in the Printing Industry" will be of interest to press designers, manufacturers and users. Write for it today.

SILENT CHAIN DRIVES – FLEXIBLE COUPLINGS

RAMSEY

CHAIN COMPANY, INC.

5150 BROADWAY • ALBANY, N. Y.

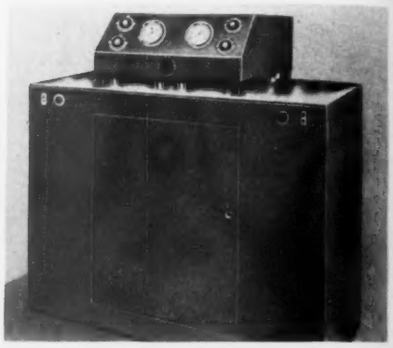
Equipment & Supplies

(Continued from Page 22)

Studebaker Molding Press

Studebaker Machine Co. has announced a new Hydraulic Press for printers, electrotypers, stereotypers, plastic and rubber platemakers and for laminating. The press is all steel construction and platens are furnished to requirements.

Cycle time is said to be reduced



through several new features among which are included: Individually controlled hot and cold platens; one level operation; electrically heated platens thermostatically controlled. Construction is such that no handling of hot materials is necessary.

When used for molding electrotyper's molds hot press pressure is activated to force the plastic into the pattern—cold press to hold and solidify. When used by stereotypers for molding a stereotyper's matrix, the hot press is used to mold the matrix — cold press to hold while heat is removed.

For plastic and rubber printing plates and stereotype patterns, a thermosetting sheet is molded into a matrix in the hot press and is cooled under pressure in the cold press. It is also designed for plastic laminating of printed sheets either backed with colored plastic sheets or clear laminated sheeting. When requesting further information please mention PEE No. 222.

Oilgearducers Bulletin

Oilgearducers, packaged hydraulic drive output units consisting of Oilgear's constant displacement axial piston motors integral with Falk's concentric and right angle all-steel reducers are described in an 8-page bulletin published by The Oilgear Co. There are five sizes of hydraulic motors for drives up to 20 h.p. Reducers with wide ratio combinations provide max. output speeds from 1.7 to 1170 r.p.m., according to the sponsor. Starting and peak torques are claimed to be 60% higher. Included in specifications are complete variable speed drives with and without Oilgearducers. Typical applications are listed and described, and installation dimensions are included. For further information, please mention PEE No. 220 in your request.

(*Continued on Page 26*)

COTTRELL

Claybourn Division,
Milwaukee, Wis.

Sales Offices:
New York, Chicago, London

The NOLAN REMELTER

Slashes Remelting Costs Boosts Efficiency!

—write for Bulletin

NOLAN Corporation

Rome, New York

A COMPLETE SERVICE!

ADVERTISING ART

COMMERCIAL PHOTOGRAPHY

LETTERPRESS PLATES

OFFSET PLATES

ROTOGRAVURE PLATES

Makers of Fine Printing Plates

GRAPHIC ARTS CORPORATION OF OHIO

110 Ottawa St. • Toledo 4, Ohio • Phone Garfield 3781

DETROIT BRANCH
825 West Elizabeth Street
WOodward 2-9122

CHICAGO
222 West Adams Street
RAndolph 6-5383

NEW YORK
122 E. 42nd Street
OXford 7-2387

Equipment & Supplies

(Continued from Page 24)

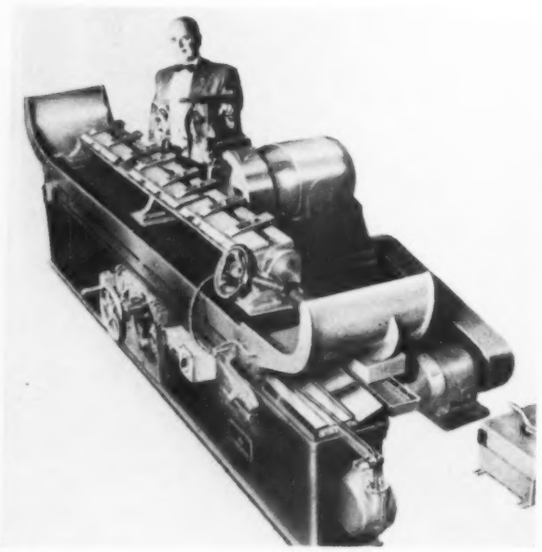
Clamping and Timing Devices for Knife Grinders

Samuel C. Rogers & Co. has announced two devices designed for the Rogers NT and 220 Series Machine Knife Grinders. An air clamping device has been designed to provide instantaneous clamping of the knife in grinding position. Sponsor claims the device, which operates the knife clamps by air pressure, reduces considerably the knife set-up time.

It is stated that an even distribution of clamping pressure is provided along the full length of the knife. When the air pressure is released at the end of the grind, the clamps spring free of the work to a preset height. Should air pressure be shut off for any reason, a slow bleeder valve maintains pressure within the system for as long as 2 hrs., according to sponsor.

The other attachment for Rogers grinders is an automatic timing device which automatically stops the grinder, including motors, after a predetermined grinding period. When the preset time has expired, the grinder continues operation until the end of its stroke to prevent burning or uneven work.

The automatic infeed operates in conjunction with the timing device and can be set within limits of 0.0005 in. to 0.005 in. grind per table cycle. A safety device prevents accidental starting of the knife table or grinding head. For further information on these devices, please mention PEE No. 200 in your request.



A Rogers Knife Grinder equipped with two recently announced attachments. One is an air clamping device for providing instantaneous clamping of the knife in grinding position. The other is an automatic timing device which automatically stops the grinder after a predetermined grinding period.

Coated Offset Paper Booklet

A revised edition of the 68 page booklet *How to Lithograph Coated Offset Paper* by Robert Reed has been published by Kimberly-Clark Corp. Recently developed materials, equipment and methods related to the successful running of coated offset paper are covered in the revised booklet. Typical of the booklet's 50 sections are those dealing with the advantages and disadvantages of coated paper, practical tests for coated paper, coated paper troubles, etc. Numerous illustrations are used along with the text. A new cover design is used for the revised booklet. For a copy of this literature, please refer to PEE No. 205 in your request.

Conveyor Drier for Test Use

Herbert Products, Inc., has developed a portable test conveyor drier for on-location demonstrations of Corning Heating Panel. It will be made available on a loan basis for evaluating in plants the

(*Continued on Page 30*)

TIMKEN
Roller Bearing Axle Company.

Main Office: 3100 to 3110 North Second St.

ST. LOUIS, MO.

BRANCHES.

NEW YORK—No. 1709 Broadway (N. W. Cor. 57th St.)

BOSTON—No. 29 Beverly Street.

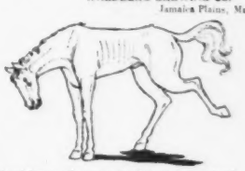
BROOKLYN—No. 40 Boerum Place.

PHILADELPHIA—Fulton & Walker Co., 30th and Filbert Sts.

WHAT THEY SAY.

"We are hauling 100 cases of beer, weighing 65 lbs. each 6500 lbs., and with the weight of the wagon, 1650 lbs., a total of 8150 lbs., with **one (1) horse** with ease, since we had our wagon equipped with **Timken Roller Bearing Axles.**

WALDBERG BREWING CO."
Jamaica Plains, Mass.



I kick because the wagon I pull is not equipped with

TIMKEN ROLLER BEARING AXLES.

I have to pull from 1500 to 1600 lbs., and it is killing me.

Parts represented by figures 2 and 3, together with box, constitute the entire Timken Roller Bearing.

Axles tried on exhibition at our New York office. Also at the Pan-American Exposition, Buffalo, N. Y.

On a level, road in mud, stand in, trucks each loaded with 4000 pounds of pig iron, one equipped with ordinary axles and one with Timken Roller Bearing Axles. The vehicle equipped with the ordinary axles requires the exertion of 16 pounds of force to start it, while the vehicle equipped with the Timken Roller Bearing Axles requires a force of only 8 pounds to start it—a saving of 8 lbs. per cent. of draft.

FORMERLY

TWO HORSES
Were required to pull this Surrey.

NOW

ONE HORSE
Can pull this Surrey by the bit.

See scores of letters printed on page 6.

COPY.

BUCKEYE BUGGY CO.
Manufacturers of FINE VEHICLES.

Columbus, O., March 28th, 1901.

Timken Roller Bearing Axle Co.,
St. Louis, Mo.

Gentlemen—We are pleased to say that the Timken Roller Bearing Axle has proven a great success wherever we have used it.

One particular vehicle that we put it on, a large six passenger carriage, we shipped to a customer in Chicago. **He uses but ONE HORSE in pulling this large vehicle with SIX PEOPLE in it.** This certainly shows a great saving in draft, and we are yet to have our first complaint regarding them.

We think that you have the right principle, and that that principle is made a success by the painstaking care which you exercise in fitting up the boxes and rollers. We expect to largely increase our use of your axles. We are,

Very truly,
(Signed) **Buckeye Buggy Co.,**
Per C. E. Jackson, Manager.

COPY.

KNIGHTSTOWN BUGGY CO.
WHOLESALE MANUFACTURERS For the Trade only.

Knightstown, Ind., April 11th, 1901.

Timken Roller Bearing Axle Co.,
St. Louis, Mo.

Gentlemen—Yours of the 8th to hand and will say in reply that the roller bearing axles we bought from you have more than given satisfaction. They were put on **a heavy surrey, usually a two-horse vehicle,** but with Timken Roller Bearing Axles **one horse can pull the surrey almost by the bit.** Yours respectfully,

Knightstown Buggy Co.

TIMKEN
Roller Bearing AXLES

Reduce draft over 50 per cent.

Require oiling only twice a year.

Can be substituted for ordinary axles on old vehicles.

Can be used with any standard wheel, old as well as new.

Are mechanically perfect. No breakages. Practically no wear.

Are easily adjusted. No play. No rattling. No lost motion.

Are adapted to all vehicles from the lightest speeding wagon to the heaviest truck and railroad car. Best on earth for automobiles.

Do your horses play out?
Do you want to double their serviceable life?
Do you want to double the earning capacity of your vehicles?
Do you want to decrease the number of horses required to do your work?
Do you want to reduce stable expenses?
Do you want to pass other drivers?
Are you tired of oiling your axles every day or two?

IF SO, EQUIP ALL YOUR VEHICLES WITH

TIMKEN
ROLLER BEARING AXLES.

FOR SALE BY

All First Class Carriage and Wagon Manufacturers and Dealers.

Write us for booklet "Saving the Horse"

Address all communications to

TIMKEN ROLLER BEARING AXLE CO.
Department F. St. Louis, Mo.

IT MAKES A HORSE LAUGH

To Equip His Vehicle with

TIMKEN ROLLER BEARING AXLES

BECAUSE

His work is made easy.
He can do double the work he could formerly.
His life-time is doubled.

HIS OWNER LAUGHS EVEN MORE

BECAUSE

The draft on his vehicle is reduced over 50 per cent.
The earning capacity of his vehicle is doubled.
He has the fastest vehicle if not the fastest horse.
He has to oil his axles only twice a year.

In terms of performance—

TIMKEN® bearings still give you more for your money than any other bearings you can buy

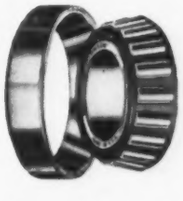
IN 1901, Timken® tapered roller bearings were used mainly in wagon wheels. They saved "horsepower", manpower, materials and equipment. They were the best bearings you could buy.

Today, 53 years later, Timken tapered roller bearings are used in thousands of applications. They *still* save horsepower, manpower, materials and equipment. And they're *still* the best bearings you can buy.

Why? Because we've never stopped improving Timken bearings. One example: we're the only U. S. bearing manufacturer that makes our own steel to control bearing quality every step of the way.

In terms of performance, Timken bearings *still* give you more for your money than any other make. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS



NOT JUST A BALL ○ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭

BEARING TAKES RADIAL ↕ AND THRUST →← LOADS OR ANY COMBINATION ✳

Type storage area at the Parthenon Press, Nashville, Tenn., is supplied with open steel shelving. Sections of shelving are identified by letters of alphabet, with horizontal sections of each shelve numbered. Letters and figures are used for locating stored type. These are tied into a card file system. Proofs of jobs, as seen in this illustration, serve for quicker location.

Type and Plate Handling Elevator

By R. R. RUSSELL

A SMALL elevator recently completed making it possible to transfer type and plates directly to storage in the basement at Parthenon Press, Nashville, Tenn., will eliminate the wages of one man in handling these materials besides eliminating possible damage to type and plates when moved across block floors on a roller-equipped truck table.

By means of this elevator, type or plates can be transferred from a point in the composing room near lockup tables to a point in the aisle in the basement between the plate vault and a special section with steel shelving for type storage. Heretofore, type and plates had to be transported on table trucks to a large elevator almost 100 ft. from this point and brought the same distance from elevator to storage. Handled as carefully as possible this way, there was more or less damage to the forms from vibration caused by rolling over a wood block floor in the plant workroom and over a concrete floor in the basement. The new method eliminates this damage.

The cage of the elevator, constructed by a local contractor, travels 11 ft., 10 in.; is 24 in. by 24 in.; the weight capacity is 250 lbs., and is powered with a 1 h.p. gear-head motor with brake. A laminated wood board, sliding in channels at either side (not painted at the time the photo was made) when dropped, operates a safety device to protect the operator and also serves to control air draft through the shaft from basement to work room. Cost of the installation complete, according to Phil Williams, foreman of the plant maintenance department who supervised installation, was approx. $800.

Commenting on the considerable time to be saved, as well as the elimination of damage to the material being transferred, Porter Bradshaw, Superintendent of the plant, stated the greatest saving would be elimination of the necessity for a second man in the plate vault and type storage area. Handling storage of type and plates in this plant is one of management's biggest problems.

Basement section of the elevator at Nashville's Parthenon Press is in aisle between plate room and type storage area. Plate room with its steel storage shelving is enclosed with brick walls. Douglas Williams (left) is in charge of type and plate storage.

Foster Manufacturing Co. now is located at 210 N. Broad St., Philadelphia 2, Pa., it has been announced. The company formerly occupied offices at 333 S. Broad St., Philadelphia. Displayed in the new showroom is a selection of composing room equipment.

The happy printer on the left is A. H. Gratz, who is accepting a "Benny" and $1000 for the campaign entered by his company, Herbick & Held Printing Company, Pittsburgh, Pa., in the 1953 P.I.A. Printer's & Lithographer's Self-Advertising Exhibition and Awards. You can win the same prize in this year's competition. Write to Printing Industry of America, Inc., 719 Fifteenth St. N. W., Washington, D. C., for rules and entry blanks.

The Single Color *Offset Press*

By I. H. SAYRE

Price $6 per copy

Because of the small handling margin please enclose cash with order

THE PURPOSE of this book is to offer a detailed technical explanation of the operation of the small single color offset printing press. It also carries recommendations for approved methods of printing technique and press care which apply to all offset printing. Much of the technical operating information applies to all makes of small offset presses. Should be in the library of all executives interested in offset printing.

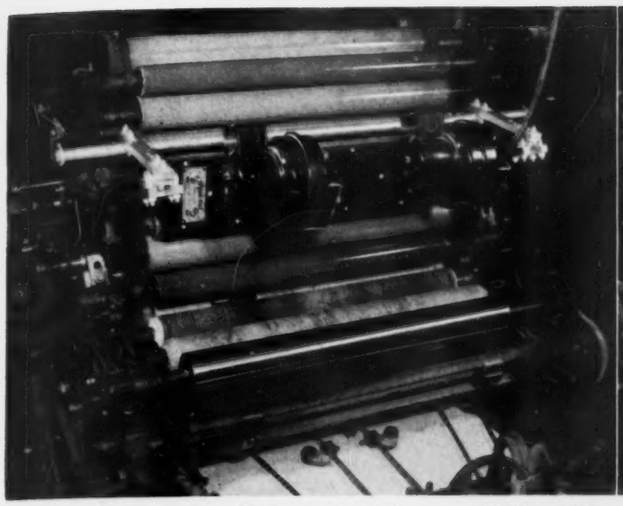
Section I deals with Harris offset presses.

Section II deals exhaustively with materials used in offset printing.

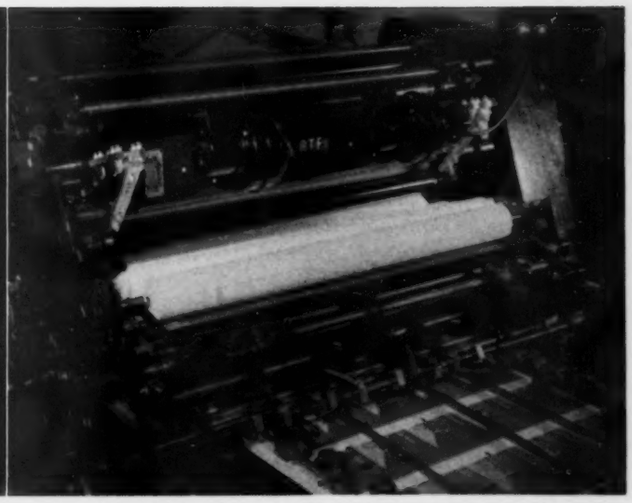
Section III deals with ATF's Webendorfer single-color offset presses.

Generously illustrated with 99 figures in line and halftone; 284 pages; size, 6 in. by 9¼ in.; bound in blue cloth, cream stamped lettering.

Printing Equipment Engineer 1276 West Third St. Cleveland 13, Ohio.



At left is shown an Aqua-Trol unit installed on an ATF Chief 22 Offset Printing Press. The unit removes excess moisture by a system of air turbines, heaters and air bafflers which control evaporation.



At right is illustrated an ATF Aqua-Trol unit mounted above the inking system of a 21 in. by 28 in. Harris LTW Offset Printing Press. Aqua-Trol can be fitted to any offset press except Miehle Rotaprint 17.

Offset's No. 1 Problem: Control of Water Dampening or Excess Moisture in Ink. Now Controllable on Practically Any Make of Press—American Type Founders, Inc., recently demonstrated the Aqua-Trol Unit at its main plant in Elizabeth, N. J. The device was developed by President Robert Tucker, Warren Childers and S. E. Nevampa of Interstate Printing Co., Houston, Tex. American Type Founders, through announcement by Vice President, R. A. Tobias, stated: "This is the first step in our plan to make available to the printing industry important developments of any equipment that will be of help to the printing industry."

It was explained that Aqua-Trol controls the excess moisture on an offset printing press which normally finds its way into the inking system and causes emulsification of the ink with consequent loss of printing quality and reduced plate life.

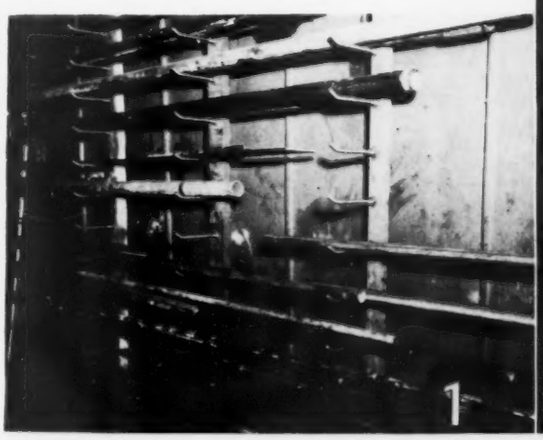
The controlled evaporation is provided through an Aqua-Trol unit which is mounted over the press' inking system. The unit removes excess moisture from the ink through a system of air turbines, heaters and air bafflers which control evaporation.

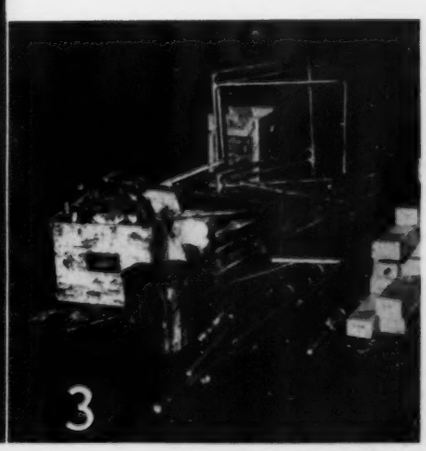
The Aqua-Trol unit can be applied to any make of offset press from a 10 in. duplicator up to a large web-fed press. ATF states the only possible exception is the new Miehle Rotaprint 17 press in which water and ink are mixed in the fountain.

The Aqua-Trol unit is fastened on the press with brackets supplied for the purpose. Mounting time is said to range from 10 min. to 1 hr. by the average person without drilling or tapping. A 110 v. plug electrical connection is needed.

American Type Founders report that in order to demonstrate effective removal of large amounts of excess moisture, a Chief 22 Press was run without Aqua-Trol until good printing quality was obtained. Then a sponge heavily charged with water was used to flood the dampening rollers until printing quality was lost. It was pointed out that normally at this point it would be necessary to stop and wash up the press or run several hundred sheets to restore good printing quality. By turning on the Aqua-Trol and letting the press idle for 1½ min. the good printing quality was restored. Other tests under varying ink-water conditions were also made with satisfactory results, it is reported.

ATF also reports that with a minimum amount of water being used, some of it finds its way into the inking system and under these conditions Aqua-Trol almost immediately removes 54% of this moisture.





Control of Waste at Chicago's Rotoprint—Control of waste is one of the results of good housekeeping practices at the Chicago Rotoprint, and both are evidence of what can be done in an economic utilization program.

In Fig. 1 is illustrated the type of re-usable scrap material which formerly was disposed of as waste resting on wall racks.

In Fig. 2 is shown one of the vertical type of floor racks that has been installed at Rotoprint to accommodate odd ends of pipe.

In Fig. 3 is shown yet another type—a floor mounted horizontal rack.

Racking this material for re-use, instead of scrapping it, resulted in a savings of material besides promoting good housekeeping practices.

TROUBLES ENOUGH—
in summer circulation

With green boys substituting for regular carriers away on outings — with many temporary addresses for subscribers on vacations —

Why add the uncertainties of stereotyping experiments with untried dry mats. Much better to stay with good, uniform, reliable, quick performing Certified Mats — today and hereafter.

For dependable stereotyping, rely on Certified Mats — Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.

cut metal melting costs with a 'SURFACE' furnace

SAVE TIME. Melts 5,000 lbs. of lead in only 2 hours. Bottom outlet with casting trough, easily swung through large arc, facilitates pig casting. **SAVE SPACE.** Hood doors, bottom outlet and valve handles can be positioned conveniently no matter where the furnace is to be placed. **SAVE FUEL.** Simple-adjusting 'Surface' burners insure complete combustion, maximum efficiency.

Pick the right furnace for your production requirements from 5 sizes with capacities of 100-5,000 lbs. They use natural gas, manufactured gas, or LP gas. Temperatures up to 1200F.

Call your 'Surface' representative or write for Literature H54-13.

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

Equipment & Supplies

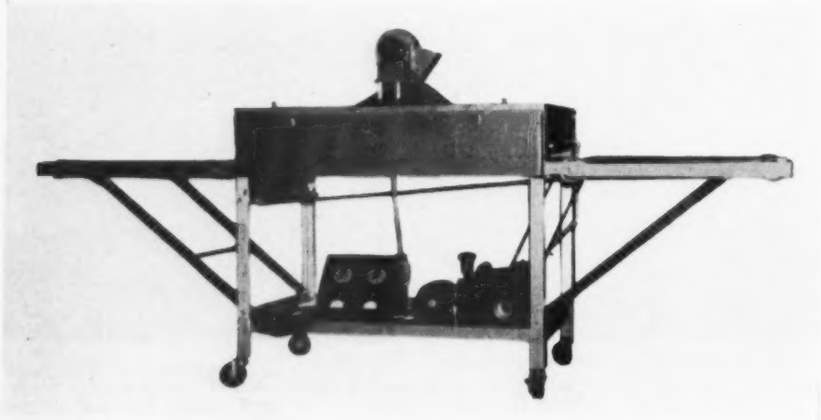
(Continued from Page 26)

drying of various material using the Corning panels. The company states the drier will enable the plant executive to determine the results of radiant drying on various work, amount of heat required, practical speeds and similar information.

The conveyor is equipped with variable controls to accommodate different types of work. Indicating instruments provide such information as delivered temperature, conveyor speed, distance of heat source from work and amount of current used for the particular amount of time at the indicated voltage. The conveyor is also equipped with an exhaust hood and blower, together with a chill section for cooling after drying.

The 2 ft. wide conveyor belt is 10 ft. in length. The unit is mounted on rubber tire wheels for movement. For additional information, please mention PEE No. 181 in your request.

ATF Gravure Press Bulletin — The Economette, a folder, has recently been issued by American Type Founders. In it are described the ATF small, two-color rotogravure press, its uses and specifications. Additional information may be obtained by requesting PEE No. 195.



A portable test conveyor drier designed by Herbert Products, Inc., for demonstrating Corning Heating Panel in printing plants.

Slitter and Rewinder Bulletin

Hobbs Mfg. Co., has revised its bulletin on improved Hobbs slitters and rewinders. Among the features of this equipment illustrated in the bulletin are the operating, electrical and tension adjustment controls which are all located within the operator's reach. Paper, plastics, laminations and fabrics can be handled on the slitters and rewinders by use of the proper cutters. Cutters are available in contact, razor and shear types. According to the sponsor, rolls up to 40 in. diam. and 300 lbs. max. weight can be carried by the parent roll stand. The unwind shaft is described as having both lateral and forward adjustments, as well as a friction brake with hand knob and screw setting tension adjustment. Pressure rolls are designed to maintain proper feed pressures on various materials and to help feed to the slitting roll. Please mention PEE No. 197 when requesting a copy of this bulletin.

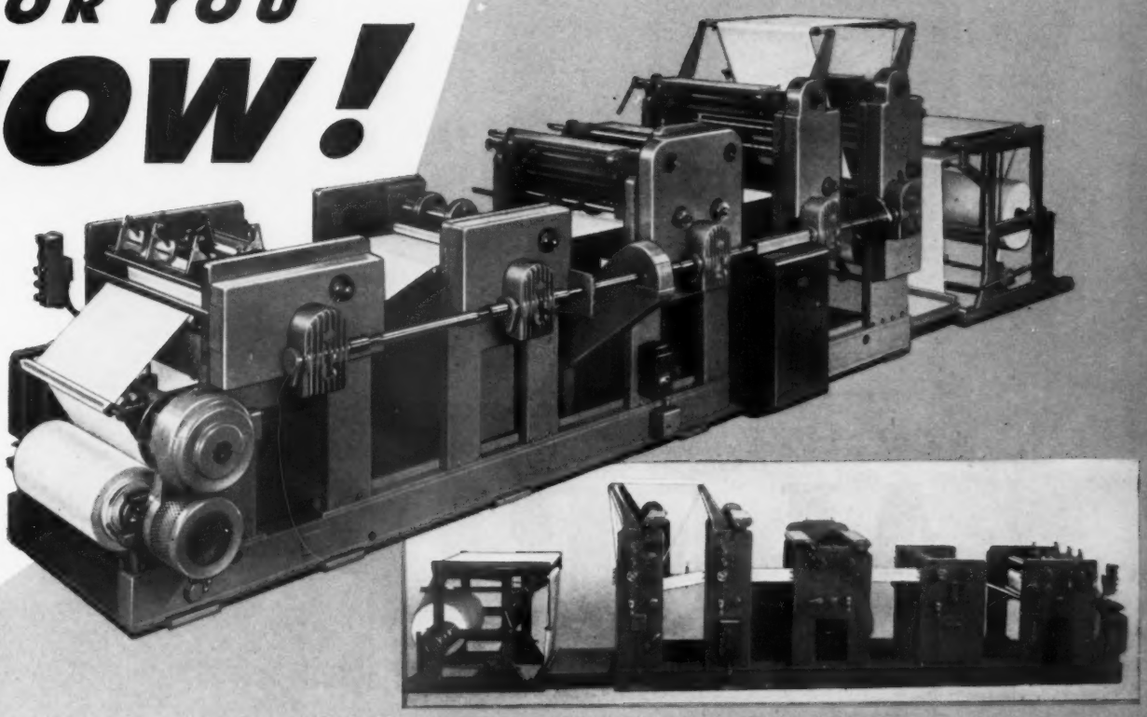
Top Sheet for Letterpresses

Development of a top sheet for letterpress newspaper, cylinder, platen and proof presses consisting of a smooth, hard plastic surface and a resilient backing has been announced by National Automotive Fibres, Inc. Sponsor claims a reduction in the amount of makeready time by means of the resilient backing which compensates for unevenness in the form. Known as Perfex Top Sheet, it is further claimed the surface is long wearing, moisture proof and can be cleaned

(*Continued on Page 32*)

THERE CAN BE PROFIT FOR YOU NOW!

Hamilton 17" x 30" rotary impact, two color, rubber plate press with mill roll uniform tension unwinder, face numbering, collating hole punch, file hole punch, cross perforator, lengthwise slitter, lengthwise perforator, (with provision for future skip length perforator), and patented magnetic unitension rewinder.



Don't wait until the production of continuous forms at high speeds . . . (with complete precision of multiple operations) . . . becomes a "must." Have a Hamilton Web Press designed to fit your requirements exactly . . . NOW.

Hamilton's skilled engineers have designed the exact press required for many of the leaders in the continuous form industry. Let them help you get the utmost in printing, precision, production, and profit by designing a web press for you: using rubber plate printing, offset printing, flexograph printing . . . or any combination of these printing methods you desire. Your Hamilton designed press can also be equipped with spot carbonizing.

Continuous form folding, rewinding, sheeting (stack or conveyor delivery) can be added to the press delivery at any future time . . . and they are interchangeable in a matter of minutes.

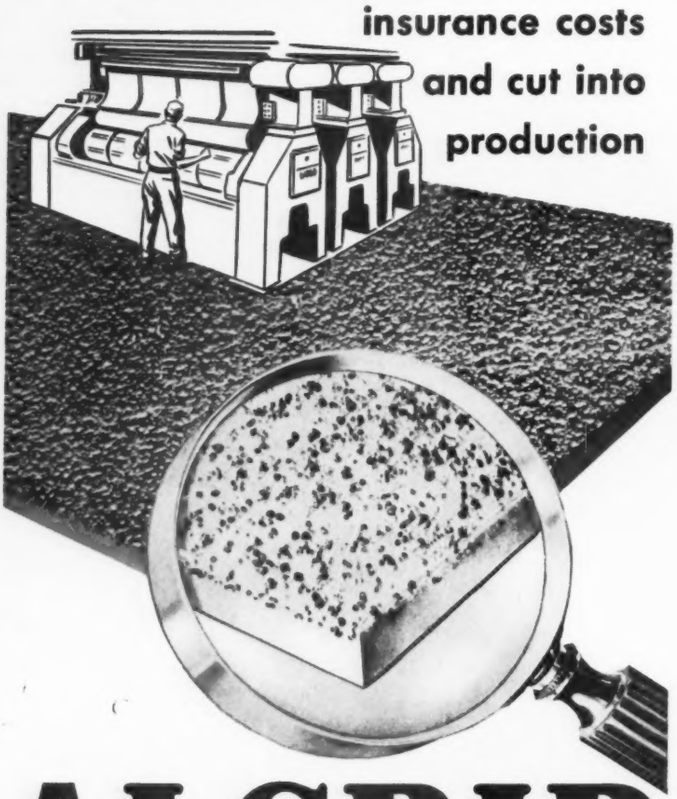
Hamilton's engineers are expert in the creation of special printing and paper converting machines. Why not consult them . . . NOW! Your inquiry is invited.

PRECISION BUSINESS FORM MACHINERY

The **HAMILTON** TOOL COMPANY

910 HANOVER ST., HAMILTON, OHIO

Slipping accidents skyrocket insurance costs and cut into production



ALGRIP

Gives true foot safety...and pays for itself

Pressroom floors slicked with ink mist are an invitation to tragedy—in shattered morale, in crippling accidents, in costly insurance rates.

Plants throughout the country have already solved this accident-and-insurance problem with ALGRIP Abrasive Rolled Steel Floor Plate. For ALGRIP, installed wherever footing is unsure, stays non-slip under all conditions—even on steep inclines!

Hundreds of tiny abrasive particles impregnated *to a controlled depth of penetration* into each square foot of ALGRIP's tough, light-weight steel plate give it a rugged "grinding-wheel" grain surface that takes a firm grip at every footstep. And ALGRIP never becomes smooth because hard wear only exposes new abrasive particles. It's Underwriters' Laboratories approved for safety.

ALGRIP foot safety pays for itself in savings on insurance premiums. Mail this handy coupon today for full details on how ALGRIP can cut costs for you. There's no obligation.

A.W. ALGRIP
Abrasive Rolled Steel Floor Plate

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send Booklet AL-30 on cutting costs with ALGRIP.

Name_____ **Title**_____

Address_____

City_____ **Zone**_____ **State**_____

Equipment & Supplies

(Continued from Page 30)

with any roller wash or kerosene. The sheet is available in thicknesses of 0.035 in. for newspaper presses and 0.020 in. for commercial letterpresses. It is also available in 48 in. wide, 50 yd. rolls and in cut sizes. For further information, please request PEE No. 198.

Du Pont Rotofilm

A new light-sensitive material called du Pont Rotofilm which, it is thought, will simplify gravure printing and reduce color printing costs has been developed by the du Pont Photo Products Dept. with the assistance of Alco Gravure Div. of Publication Corporation, New York, N. Y. The following claims are made by sponsor: Pre-sensitization eliminates a health hazard involved in the use of bichromate sensitizers; permits greater control ability through mechanized processing which reduces the human element error; permits determination of etching time by means of a densitometer; Rotofilm may be exposed within a matter of seconds to incandescent light; after the exposed film has been processed in a manner similar to that for ordinary photographic film, it may be used immediately, or stored for a considerable period of time.

It is further said that any number of copies can be made photographically from a master set of positives and mailed in paperboard tubes, after development; thus there is a decided advantage to publications which have editions printed on presses located in various parts of the country.

Rotofilm, it is announced, may be used in conventional gravure, the Dultgen process, or in the newly developed Alco process. In the Alco process, it is claimed, a greater degree of quality control can be attained. When used for color printing with the Alco process, Rotofilm permits the usual number of glass-plate positives to be cut in half, allowing a reduction in the cost of gravure color. Further information is available by requesting PEE No. 182.

Combines Bodoni Faces

Mergenthaler Linotype Co., with a new two-letter cutting, has made 24 pt. Bodoni Book with Italic available on duplex display matrices, according to an announcement by Jackson Burke, Director of Typographic Development. Roman and italic in 24 pt. Bodoni Book have been available separately, and used as medium weight types in newspapers, catalogs, commercial folders and a variety of advertising material. For further information, please mention PEE No. 201 in your request.

Liquid Detects Air-Gas Leaks

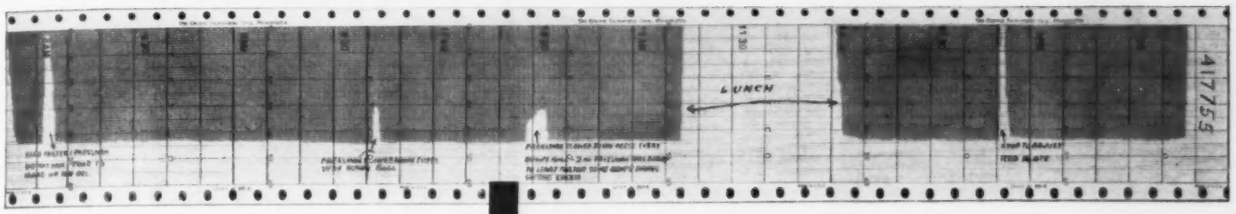
The development of a sensitive liquid for detecting minute leaks of gases, chemicals, oils, air, etc., has been reported by American Gas & Chemicals, Inc. Called Leak-Tec, it may be used safely on a variety of equipment including gas installations, gas transmission lines, pumping and compressor stations, electric cables, air conditioning equipment, chem-

(Continued on Page 88)

Consistently

HIGH PRODUCTION GOSS

REELS—TENSIONS—PASTERS



This is a typical production chart of one day's operation of Goss REELS-TENSIONS-PASTERS on a HEADLINER® 4-color ROP run. Webs were spliced consistently at full speed, except for only 2 pasters, when newsprint rolls were so badly out-of-round that press speed was reduced. (In many plants no attempt would be made to run such lopsided rolls, but Goss Pneumatic Tension allows their use at high speed.) During the 5-hour run, there were only 3 stops — one for lunch, one for adjusting a color plate and one because a new roll was not ready. The Goss Company invites you to see for yourself how efficiently and dependably the Goss REEL-TENSION-PASTER operates.

SIMPLE – SURE – AUTOMATIC

● Operation of the Goss Reel-Tension-Paster is so automatic that anyone can make a paster. Electronic devices have eliminated all guesswork.

● Besides the amazing ease and simplicity of operation, four major factors set off the Goss Reel-Tension-Paster: (1) *advanced design:* (2) *sturdy construction:* (3) *low maintenance:* and (4) *accessibility* for loading and preparing rolls.

● Constant tension is maintained during the entire pasting cycle, assuring excellent register of ROP color and full control of the web at all times. The extreme sensitivity of the floating governor roller—which has a total arc of only 1/10 inch in either direction—provides instantaneous response to the slightest fluctuation in the web. This not only allows badly out-of-round rolls to be run, but reduces web breaks by as much as 75%.

● Operation is unsurpassed for simplicity. There are only 3 buttons—(1) *Position*, to index the new roll after it has been prepared; (2) *Pre-Drive*, to bring the new roll up to speed; (3) *Paste*.

A photo-electric cell controls the position of the newly prepared roll prior to the Pre-Drive operation.

The Pre-Drive mechanism rotates the new roll until surface speed is equal to web speed, and it maintains this uniformity until the splice has been made. It automatically meets variations in press speed during the pasting cycle.

The instant that the web is severed from the expiring core, the knife retracts, while the tension belts press against the new roll as it continues to index to normal running position. At the same time, the spindle brake stops rotation of the expiring core immediately.

● Throughout, manual operation has been reduced to a minimum, making the Goss Reel-Tension-Paster truly **SIMPLE — SURE — AUTOMATIC.**

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Control *of production at McCormick-Armstrong provides flexible press loading and quick job location*

By CHARLES E. DUNN*

**Production Mgr., McCormick-Armstrong Co., Wichita, Kan.*

IN THE operation of a commercial printing plant, top management thinks in terms of profit, salesmen in terms of customer satisfaction, and production men are concerned with equipment loads.

The successful production control man in a printing plant must be aware of all three objectives. It is his job to see that work is handled in the most economical way without overloading available equipment and personnel, and the order is completed within the time specified by the customer.

At McCormick-Armstrong Co., Wichita, Kan., more than 470 individual orders are scheduled each month. This is what we have to work with and this article deals with how we handle our scheduling.

Description of the Plant

Briefly, McCormick-Armstrong is a medium-sized, combination process printing plant employing 170 people. There is a Creative Dept. of about 20 workers who perform layout, illustration, finished art and camera assembly operations as well as retouching, copy and commercial photography.

The Offset Dept. is equipped with complete camera and platemaking facilities, as well as single and two-color offset presses.

Equipment in the Letterpress Pressroom ranges from small job presses to large cylinder presses, while the Composing Room is equipped to provide type and proofs for both printing processes.

The Bindery equipment is adequate for handling practically all of the necessary finishing operations on work turned out by both pressrooms.

Considerations of Production Control

In production control or scheduling, most commercial printing plants have to consider two basic problems. To arrive at logical delivery dates, we must first consider the machine load. After the delivery date has been established and the job goes into production, we must then consider the locating or progress of the job as it passes through the plant. The more visual each of these problems can be made, the easier they will be to solve.

Visual Control Board

It must be kept in mind that machine loading and job locating are separate and distinct production control operations. To combine both on one visual control board is difficult for the following reasons: Loading lists jobs according to dates and units of time, while locating lists jobs alphabetically or numerically.

At McCormick-Armstrong, the machine loading problem seemed to be the one to solve first and the control boards discussed later in the article are primarily for that purpose. We have, however, combined enough of the locating information on the boards to permit a visual determination of the status of the job as it moves toward the press date. Also shown are the necessary finishing operations. The jobs are not listed alphabetically or numerically, however, as they would be if the boards were intended for locating only.

This is as close to a combination of loading and locating information as we have been able to show on a single visual control board.

Presses Are Key to Loading Problem

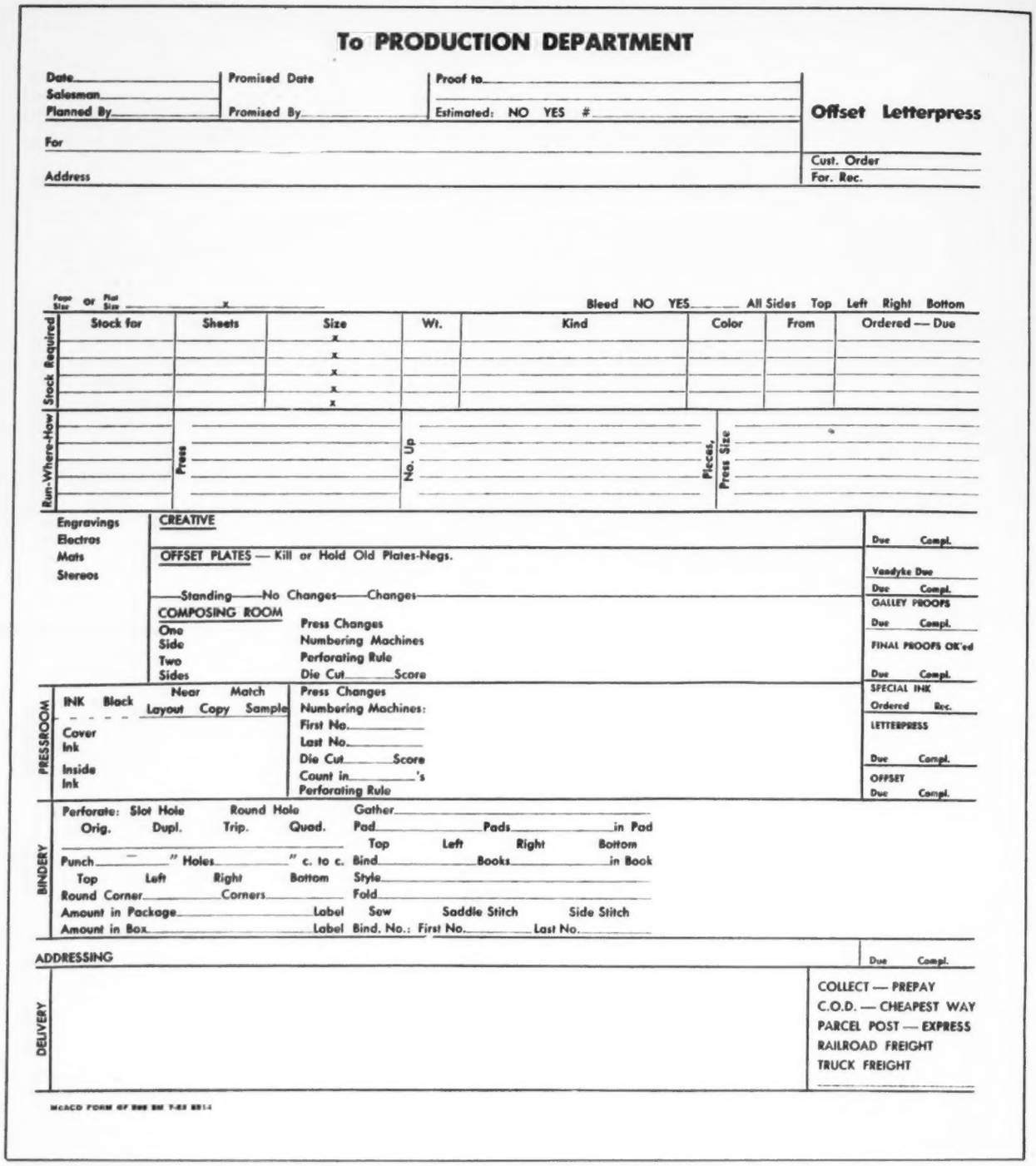
The presses are the key to the loading problem. All jobs that go on one of the larger presses are pre-estimated on a time basis. The smallest unit of time used is one-half of a work shift.

Based on what we consider a normal press load, we keep the other production departments staffed and equipped with the necessary personnel and machines to keep up with the presses.

Handling Small Jobs

It should be noted that we do not pre-estimate the jobs that run on the smaller job presses. We have an adequate number of such presses for coping with rush jobs which permits rapid schedule adjustments.

Delivery date on small jobs is determined by the Production Dept. It is up to the pressroom foreman to keep the jobs in the correct sequence. A small panel board (similar to the major machine load and locator boards illustrated in this article) is located at each press. The foreman or his assistant fills out a card strip for each job and places it in



To PRODUCTION DEPARTMENT

Date / Salesman / Planned By | Promised Date / Promised By | Proof to / Estimated: NO YES # | Offset Letterpress

For

Address

Cust. Order

For. Rec.

Page Size or Plat Size ____ x ____ Bleed NO YES ____ All Sides Top Left Right Bottom

Stock Required

Stock for	Sheets	Size	Wt.	Kind	Color	From	Ordered — Due
		x					
		x					
		x					
		x					
		x					

Run-Where-How | Press | No. Up | Pieces, Press Size

Engravings
Electros
Mats
Stereos

CREATIVE — Due Compl.

OFFSET PLATES — Kill or Hold Old Plates-Negs. — Vandyke Due

Standing — No Changes — Changes — Due Compl.

COMPOSING ROOM — GALLEY PROOFS — Due Compl.

One Side / Two Sides — Press Changes; Numbering Machines; Perforating Rule; Die Cut ____ Score — FINAL PROOFS OK'ed — Due Compl.

PRESSROOM

INK Black — Near Match — Layout Copy Sample — SPECIAL INK — Ordered Rec.

Cover Ink

Inside Ink

Press Changes
Numbering Machines: First No. ____ Last No. ____
Die Cut ____ Score
Count in ____ 's
Perforating Rule

LETTERPRESS — Due Compl.

OFFSET — Due Compl.

BINDERY

Perforate: Slot Hole — Round Hole — Orig. Dupl. Trip. Quad.

Punch ____ " Holes ____ " c. to c. — Top Left Right Bottom

Round Corner ____ Corners ____

Amount in Package ____ Label

Amount in Box ____ Label

Gather

Pad ____ Pads ____ in Pad

Bind ____ Top Left Right Bottom — Books ____ in Book

Style

Fold

Sew — Saddle Stitch — Side Stitch

Bind. No.: First No. ____ Last No. ____

ADDRESSING — Due Compl.

DELIVERY

COLLECT — PREPAY
C.O.D. — CHEAPEST WAY
PARCEL POST — EXPRESS
RAILROAD FREIGHT
TRUCK FREIGHT

McACO FORM OF [illegible]

Fig. 1—The production locator sheet used in the plant of McCormick-Armstrong Co., Inc., enables the production man to locate quickly any job in process. This sheet is kept in the Production Dept. and filed alphabetically with similar sheets on a clip board. Each locator sheet represents the job described at the top of the form. This sheet is one of the 10 departmental sheets mentioned in the article which are made out simultaneously with the job envelope. A special typewriter is used which will type through the job envelope and the 10 departmental sheets. Distribution of the departmental sheets is made to the salesman who brought in the order and one each to the production departments which will handle the job. As each department completes its operations, the sheet is returned to the Production Dept. The production man, in turn, makes a notation on the locator sheet in the spaces provided at the middle right-hand side of the form showing that the department's operations have been completed on the job.

position on the board pertaining to the press to be used.

The individual boards serve to show each pressman what the sequence of jobs for his press will be at all times. They also make it convenient for the production control man to get together with the pressroom foreman to make changes of job priority at the press on short notice.

Operation of Control Boards

McCormick-Armstrong's visual production control boards (Fig. 2) and card strips for them are made by Acme Visible Records, Inc., Crozet, Va. The boards that we use each measure 10 in. wide and 25 in. high. The card strips are ¼ in. wide and are available in 21 strips to a sheet. These sheets are scored deep enough to permit use in a typewriter and

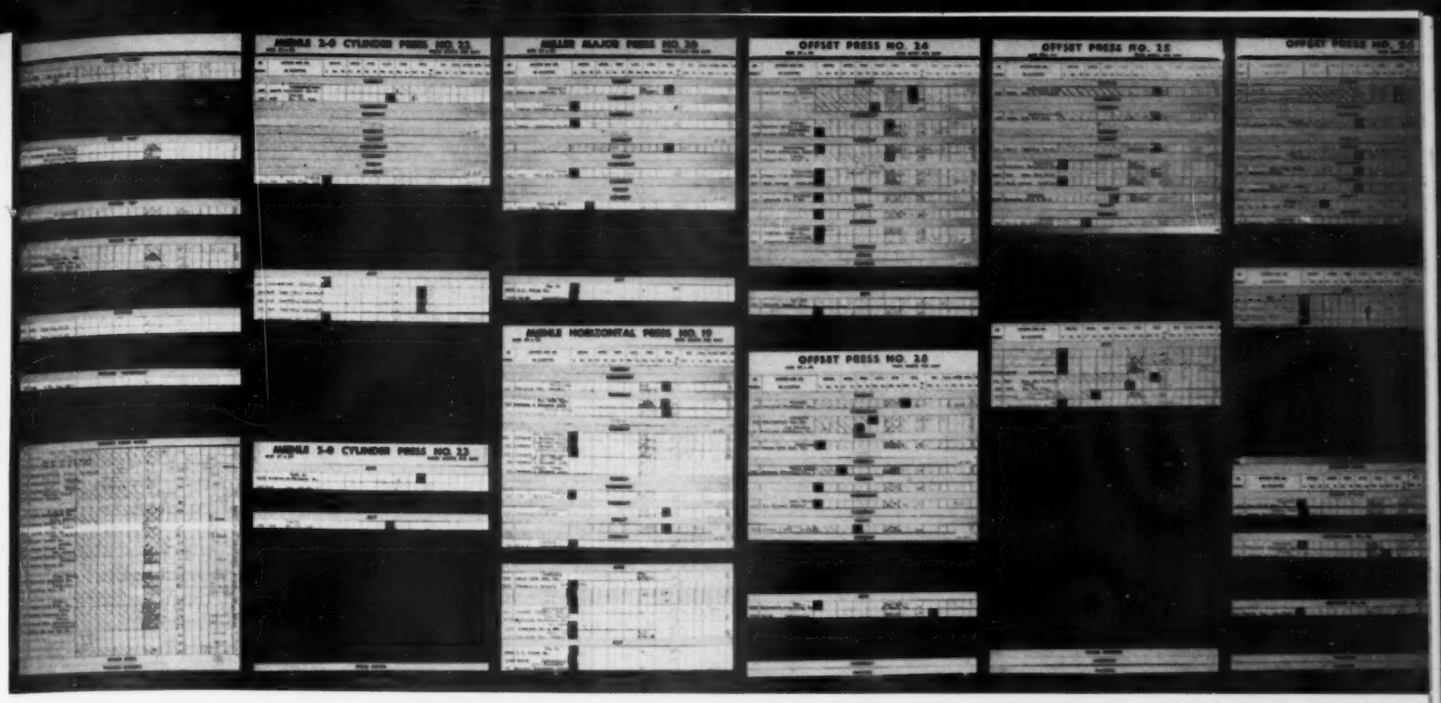


Fig. 2—The load and locator boards for eight major presses which are kept in the Production Dept. of McCormick-Armstrong Co., Inc. Each board represents the scheduling of work for the major presses operated by this Wichita firm. The board at left is designed for the scheduling of the bindery operations. The panel boards and the card strips for them are made by Acme Visible Records, Inc., Crozet, Va. Each board measures 10 in. by 25 in. The card strips are $^1/_4$ in. wide and are filled in by typewriter. The solid squares which are noticeable on each card strip are known as colored locator panels. It is actually a red celluloid square panel which is slipped on the strip and placed under the heading that indicates the present location of the job in the plant. These colored slides are a valuable part of the system in that they show at a glance the exact location of a job. They also serve to determine what jobs are behind schedule and which ones are ready to run on the press to which it has been assigned. The Miehle 5-0 Cylinder Press No. 23 shown in the second panel from the left is scheduled only by months rather than the two week period used for the other presses because of long runs assigned to this press.

the individual strips can be torn off the sheet as needed. Also available are celluloid slide signals and opaque colored paper slides which may be written on if necessary.

Information on Card Strips

We rule the card strips vertically to line-up with the heading on each board. The information is listed on the card strips at the same time the job ticket is made out. It is as follows:

(1.) Job number, name and description.
(2.) Where the stock will come from, including purchase order number and date due if it is an outside purchase.
(3.) The press the job will run on (a separate strip is made out for each press running on the job) and the number of shifts necessary for its production.
(4.) The folder to be used, if any, and the estimated folding time.
(5.) The stitcher, whether it is hand gang or automatic, if the job is to be stitched.
(6.) Outside work to be performed, if any, is noted showing where purchased, purchase order number and date due.
(7.) Other finishing operations, such as punching, perforating, sealing, inserting, round cornering, etc., are noted in pencil as a reminder but are not pre-estimated for time.
(8.) The delivery date is penciled in so that it can be erased and changed if necessary. (We all have the problem, don't we?)
(9.) Any operations which will not be used are crossed out.

Colored Locator Panels

A red celluloid square panel is slipped on the strip and placed under the heading that indicates the present location of the job in the plant. If the job is a rerun of one already plated, the operations up to *Plate* are crossed out and the red panel is placed on the first square under that heading. This leaves only plates and stock to be checked off before the job is ready to run. As soon as the plates are taken to the pressroom, the red slide is moved to *Stock*. When the stock is brought to the press, the job is ready to be run.

Note in Fig. 3 there are also card strips which indicate the days of the month. Two strips of each work day are provided to allow loading of a press for two weeks in advance. There is also a strip indicating the present month or one to show the following month, depending on the backlog of work on hand. We have found from experience that in most cases accurate machine loading is impossible beyond the two week period. It is even questionable that the second week can be accurately loaded.

Functioning of Control System

Briefly, the McCormick-Armstrong production control system functions in the following manner. Our typewriter is designed to type through the job envelope and ten departmental sheets of various colors. One of these sheets is placed in the Production Dept. file for use as a locator tool. This is known in our plant as the production locator sheet (Fig. 1) for that particular job. The sheets are filed alphabetically on a clip board for quick location when needed.

The salesman is given one copy to inform him of the basic planning on each of his jobs. The other copies are distributed among the various departments which will handle the specific job. If the job is to be run on one of the larger presses, a card strip is typed for the load and locator boards (Fig. 2). The job envelop is then sent to the first production department to handle the order.

The card strip is then placed on one of the load and locator boards which represent the press on which the job is to run. If the order is not to be delivered for more than two weeks, the job strip is placed on the lower section of the board which is indicative of the backlog of work in the plant.

The top section of the board is used for the current two week cycle. Each morning the top strip indicating the day of the week is moved to the bottom of this section. At the same time, the job or jobs that were completed on the previous day are removed and placed in their proper position on the Bindery Control Board (Fig. 4). The entire two week cycle section is then slid upward to the top of the board.

Press Explanation of Loading Board

To be specific, in Fig 3 are shown, from top to bottom:

(1.) The press number, size and the number of shifts it is normally run each day.

(2.) The current day shown is Tuesday and Job No. 191 will be completed on the

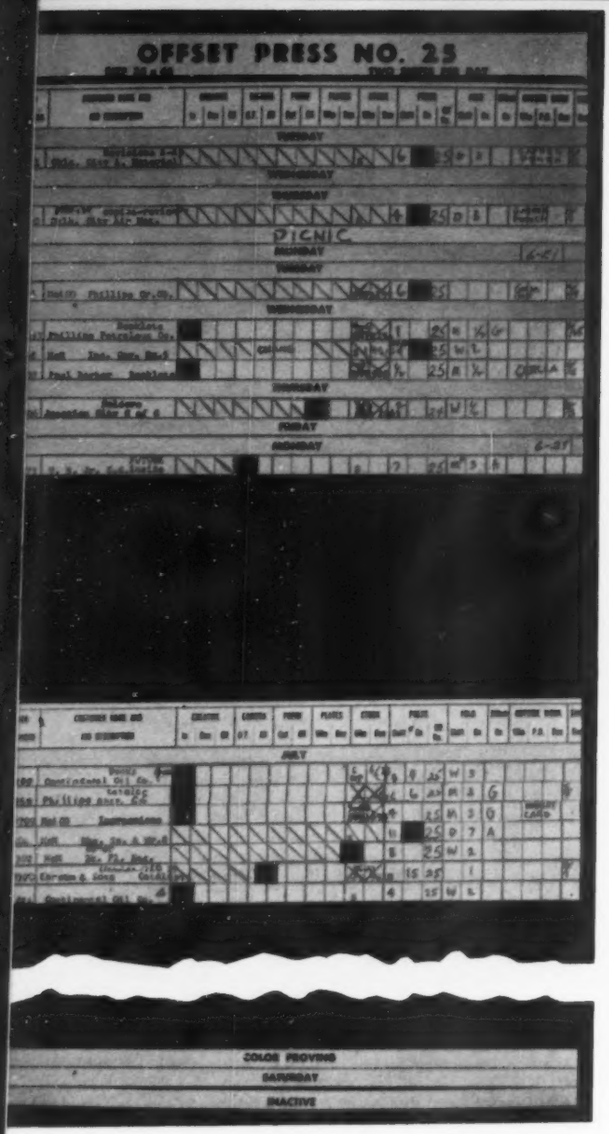


Fig. 3—A close-up of one of the load and locator boards. This board represents the jobs scheduled for Offset Press No. 25. The card strips in the top section represent jobs which have a delivery date falling in the current two-week period. If the order is not to be delivered for more than two weeks, the job strip is placed on the lower section of the board which is indicative of the backlog of work assigned to this press. Each morning the top card strip indicating the day of the week is moved to the bottom of the top section. At the same time, the job or jobs that were completed on the previous day are removed and placed in their proper position on the Bindery Control Board (Fig. 4). The entire two week cycle section is then slid upward to the top of the board. As the card strips designating the days of the week are moved to the bottom of the top section of the board and an opening occurs in the two week production schedule, then the job on top in the backlog section is moved up to the two week section. In the article, Author Dunn provides a detailed account of the markings on each card strip shown on this particular load and locator board.

press by morning. Under the main heading for *Press* is a subheading for *Shift*. The numeral *6* under this sub-head for Job No. 191 indicates six shifts on the press. Since it will be completed today and the press runs two shifts per day, we know that it has also been on the press on the previous Monday and Friday. On the following morning, the strip for Job No. 191 will be moved to the Dexter folder section of the Bindery Control Board (Fig. 4). Under the heading *Fold*, the D stands for Dexter folder and the numeral *3* means it will require three shifts to fold the job. The strip for Job No. 191 also includes a notation that the job also must be gathered and punched. It shows a delivery date of 6/12. The current date can be determined by checking the date at the end of each Monday's card strip and figuring backwards to the current day. By following this procedure, you will note that the presswork for Job No. 191 will not be completed until 6/15. This means the job is behind schedule. The salesman has made the necessary arrangements with the customer, however, and the order will be delivered on 6/18.

(3.) The next two card strips shown are for Wednesday and Thursday's work. No job will be finished on Wednesday, but the card strip under Thursday is for Job No. 430 and the presswork will be completed that day.

(4.) The next strip denotes a company picnic that was held on Friday and the plant was closed. (You should have been there!)

(5.) The next three strips are for Monday 6/21 and Tuesday, as well as Job No. 456 which will run on the press for six shifts. Note that only two days are allowed for presswork on Job No. 456. This is where our floating third shift comes into action. To be sure of delivering the order on time we have to use this extra shift to complete the presswork in order that the bindery can have it on Wednesday morning 6/23.

(6.) The next four strips show that on Wednesday we will complete presswork on three jobs totaling $2\frac{1}{2}$ shifts. The position of the colored locator slides also show that as of Tuesday 6/15 (when they were entered on the board), Jobs No. 9637 and 107 are still in the Creative Dept. (Better write them a note.)

As the card strips designating the days of the week are moved to the bottom of the top section of the board and an opening occurs in the two week production schedule, then the job on top in the backlog section is moved up to the two week section.

What Happens in an Emergency

The red colored slides are a valuable part of these boards in that they show at a glance the exact location of a job. The position of the colored slides in Fig. 3 is a good example of how the Production Dept. determines what jobs are behind schedule and what job is ready for the press in the backlog section. This latter point is most advantageous for in the event of an emergency and a job which is ready to run is needed immediately, then the production man can pull this job out of backlog and thereby prevent the press from standing idle. Such jobs in the backlog are known as filler work. The scheduling is adjusted later accordingly.

Should trouble develop on the job which is scheduled next on the press then the pressroom moves along to the next job in line. The Production Dept. is notified in the event the promised delivery date may not be kept.

Job Location Known at all Times

As the order progresses through the plant the job envelope stays with the job. The departmental sheets, however, are sent back to the production department as each department completes its operations. When the departmental sheet is received by the production clerk, he performs two operations. He marks the date on the production locator sheet, and crosses out the correct squares on the card strip on the load and locator boards. At the same time, the red celluloid panel is moved to the next operation to be performed. As the job proceeds toward the date it is to go on the press, this procedure permits the production control man to know its location at all times.

Keeping Tab on Customers' Proofs

One of the most frequent places to lose track of a job is when the proof is sent to the customer. To help control the situation, all outgoing proofs are handled by the production control man. He retains the job envelope and other material pertinent to the order until the proof is returned directly to him. This is done for these reasons: The control man has a record of when the proof goes out and he knows when it comes back. If the proof is late in being returned, he can adjust the schedule accordingly and inform the salesman concerned. Also, if a proof is out for an unusual length of time, he can question the salesman or customer. It's surprising how many customers do not realize that they must send the proof back even though we always request it.

Bindery Operations

After the press run has been completed on a job, the card strip is moved to the single control board (Fig. 4) which shows all bindery operations. Symbols are used on the card strips to designate the folder on which the job is to be run. The *D* stands for Dexter folder, while *MM*, *OS* and *W* are models of Cleveland folding machines. The same procedure is followed on the stitchers. The *G* means hand gang stitching machine, while *A* is used for automatic stitcher. All other operations are included under Bindery Hand Work.

The production control man keeps track of the major bindery machines, while operations on the smaller jobs are handled by the bindery foreman. The foreman is guided by the delivery dates shown on the job envelopes. If any delivery date cannot be met, he notifies the production control man who works the situation out with the salesman or customer.

Production Men Must be Informed

Probably the biggest problem confronting any production man is that of being kept informed of the status of every job in the plant. Nearly any production system can be made to work. Having a workable system is important, but not as important as keeping the control man informed of all job movements and deviations from schedule.

Our system has several desirable features. It does not take a large staff to keep it working. At McCormick-Armstrong, the girl who types the job envelope handles much of the work on the boards in addition to her other duties. The control man supervises the operation of the load and locator board in addition to his other duties. He is the person who makes direct contact with the foreman.

Flexibility of Control System

As long as a production system is simple it is usually flexible and there is little chance of becoming over systematized, which results in having people just keeping track of the system. In our opinion, this system combines the best loading and locating features of all of the systems we have seen as well as some ideas of our own. It is also flexible. It is a relatively easy matter to shift one or several job card strips from place to place on the load and locator board. If the next job due is not quite ready, a glance down the board will let you know what work to use as a filler.

The board enables the production men to see what jobs need immediate attention in order to keep the presses running, and in what department those jobs are located. A glance at the colored locator panels under the various headings shows the exact location of a job. This permits the production man to send a memo to the departmental foreman in sufficient time to meet a delivery date.

Competition Necessitates Flexibility

We think it is the responsibility of the production control man to have a clear picture of the in-process work at all times. This is the purpose of our load and locator boards. If you have the type of an organization that can load the equipment and say "this is it, we can't take any more rush jobs," then you're operating under hazardous conditions. If you value your job, you'd better hope that this situation never exists. Most printing plants cannot say "this is it" and make it stick—not if they have any competition.

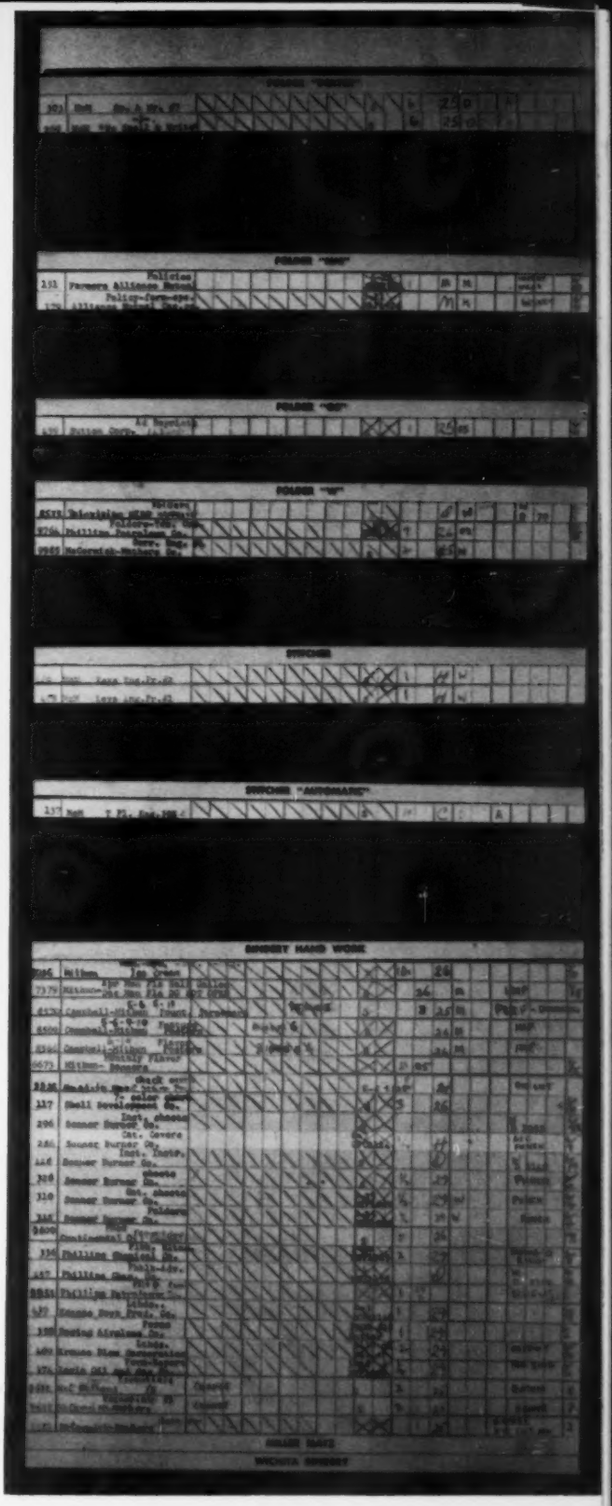


Fig. 4—The load and locator board used at McCormick-Armstrong for keeping tabs on all bindery operations going through the plant. After the press run has been completed on a job, the card strip is removed from the press load and locator board and placed on this bindery control board. The top half of the board is devoted to work requiring folding and stitching operations, while the lower half shows the jobs which are in need of bindery hand work. Typical of the operations in the latter category are perforating, diecutting, imprinting, punching, gathering, etc. Symbols are substituted on the card strips for the particular folder and stitcher on which the job is scheduled. The Dexter folding machine is designated by the letter *D*. Folders *MM*, *OS* and *W* are all models of Cleveland folding machines. Two stitching machines are used—a hand gang stitcher *G* and an automatic stitcher *A*. Control of production on the principal bindery equipment is watched over by the Production Dept., while operations on the smaller jobs are handled by the bindery foreman. A pre-estimate is made of the number of shifts which will be required to perform the folding operation on each particular job. This is shown more clearly in Fig. 3 under the heading *Fold* which has a subheading labeled *On* for this purpose.

Sales Determine Some Priority

We are confronted often with a situation which calls for running two or more jobs at the same time on the same equipment. When such a situation arises, the sales manager becomes our scheduler. Who in the production department knows how to decide between the needs and desires of two or more customers? It is up to the control man to present the hard facts of the production picture to the sales manager. He alone can make the decision as to which salesman's need is the greatest.

Perhaps there are systems that concentrate mainly on economical production, customer good will or smooth work flow in the plant. But for the operations at McCormick-Armstrong, we believe we have a system that achieves all three of these objectives.

Treasure Island Calendar

The map which Robert Louis Stevenson sketched for *Treasure Island* has been authentically reproduced in color by Everett Henry, illustrator and muralist, and appears on a calendar distributed by Harris-Seybold Co. The 24 in. by 17 in. map was printed by offset. A limited supply of prints of the map, without the calendar, is also available. Copies may be obtained by writing Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, Ohio.

The City of B
Beckons C

● Howard N. King, International President; Vice Pres., Maple Press, York, Pa. He has worked untiringly during his tenure in office toward furthering Craftsmanship by visiting local clubs around the country. The technical workshops have been an accomplishment of his administration.

PHILADELPHIA, site of this year's convention of the Intl. Assoc. of Printing House Craftsmen, figures prominently in both the history of our country and the Craftsmen's movement. It was in this city that the founders of the United States of America signed the Declaration of Independence and it was here also in 1919, that the original charter establishing the International was written. To celebrate the 35th anniversary of the founding of this association, hundreds of printing plant executives and manufacturers' representatives are expected to assemble at the Bellevue-Stratford Hotel in the City of Brotherly Love on August 8-11. *Printing Equipment Engineer* salutes Craftsmen everywhere on this important date in the history of their organization. The presentation on this and the following pages is in recognition of the elected and appointed officers, special committee chairmen and appointed representatives who are at the helm of the International Craftsmen's movement.

MAHONEY SCHNEIDER TOMMASINI KOLB OLDT HOLMQUIST MILLER

● Thomas P. Mahoney, First Vice Pres.; Vice Pres., Regensteiner Corporation, Chicago. He has taken a leading role in Craftsmen's activities wherever he has been located, from New England to the Middle West. He formerly was general manager of American Color Process Co., Cleveland.

● Henry A. Schneider, Second Vice Pres., Corporate Secretary, Charles Francis Press, Inc., New York, N. Y. He took an active part in the successful handling of the Intl. Safety Workshop recently held in New York. He is in charge of his firm's production editorial division.

● Amadeo R. (Tommy to you) Tommasini, Third Intl. Vice Pres., is Plant Mgr., University of California (Berkeley) Press. He is best known for his work as a designer of de luxe books and in phases of typography. His plant management ideas are up-to-date.

● Albert L. Kolb, Treasurer; Manager, Printing Dept., Marine Trust Co., Buffalo, N. Y. Watchdog of the International's treasury since 1950, he has successfully mixed printing with finance in his career. He has served with his present company for more than 30 years.

● Pearl E. Oldt, Intl. Executive Secretary, Cincinnati, O. He has administered International affairs since his appointment in 1947. His career has been partly in the field of printing education as well as with printing companies in Lincoln, Nebr. He is a journeyman compositor.

● Gordon J. Holmquist, Immediate Past President; Partner, Cole-Holmquist Press, Los Angeles, Calif. He has been active in International matters for a number of years. In addition to the usual progressive climb to the president's post, he served as Intl. Public Relations Chairman.

● Ray Miller, sr., General Convention Chairman, Philadelphia, Pa. Craftsmen from the City of Brotherly Love called him out of retirement to direct the convention of the organization he helped to form in the same city in 1919. He formerly was with Curtis Publishing Co. in Philadelphia.

Brotherly Love

CRAFTSMEN

WISE TESS MITCHELL HOGAN MALKOFF G. S. BRAZNELL AUGUSTINE

- George Wise, Chairman, Membership Commission; Partner-Supt., Dugan-Millis, Inc., Cleveland, O. Under his persistent hammering, membership has substantially increased. He has served on this Commission for three years. A past president of the Cleveland and Pittsburgh Clubs.
- Elmer H. Tess, Asst. Chairman, Membership Commission; Owner, T&T Party Service, Duluth, Minn. In Craftsmanship ranks, he has served as Fourteenth District Representative, a member of the Intl. Printing Week Committee and as president of the Duluth-Superior Craftsmen's Club.
- George C. Mitchell, Asst. Chairman, Membership Commission; Plant Supt., Hamilton Beach Co., Hamilton, Ont., Can. Now serving as the Canadian representative of the International Membership team, he has contributed to Craftsmanship in many ways.
- George E. Hogan, Chairman, Publications Commission; Plant Supt., Stamats Publishing Co., Cedar Rapids, Ia. He is rounding out his second year in this International post. He is also a past president of the Cedar Rapids Club and has served as Eighth District Deputy Representative.
- Sol Malkoff, Chairman, Public Relations Commission; Sales Representative, Tucker-Castleberry Printing Co., Atlanta, Ga. He is presently serving as President of the Atlanta Craftsmen's Club. He formerly held positions as production manager, typographer and Linotype operator.
- G. Stuart Braznell, Chairman, Technical Commission; General Mgr., Braznell Company, St. Louis, Mo. He headed the committee which staged the successful 1952 Craftsmen's Convention in St. Louis. He is active in the National Printing Ink Research Institute and St. Louis Ink Assoc.
- Lee Augustine, Representative-at-Large; Vice Pres., The Printing Machinery Co., Cincinnati, O. An advocate of Craftsmanship for many years he has been in the forefront of different Graphic Arts activities. He was chairman of last year's R&EC's Makeready Meeting in Cincinnati.

CHRISTOPHER

OAKES

TIERNEY

GALE

A. T. PETERS

CULVER

KEEFE

- Harry R. Christopher, Deputy Representative-at-Large; President and Treasurer, Paper Supply Co., Baltimore, Md. He formerly was chairman of the Intl. Membership Commission, Fourth District Representative and president of the Baltimore Club of Printing House Craftsmen.
- Gradie Oakes, Chairman, Advisory Council; President, Process Color Plate Co., Chicago. His leadership in International activities has netted substantial progress for a number of years. He was International president in 1948-49 and has served other presidents before and since then.
- Thomas J. Tierney, Chairman, Club Bulletin Service; Publisher, *New England Printer & Lithographer*, Boston. He is a graduate of Northeastern University and has been connected with the New England publication for 16 years. He is active in the Boston Craftsmen's Club.
- Harold G. Gale, Chairman, Club Programs; Manager, Label Mfg. Div., Waples-Platter Co., Ft. Worth, Tex. He completes another successful year in the promotion of profitable programs for local Craftsmen's clubs. He has been with the Waples-Platter firm for a quarter of a century.
- Alfred T. Peters, Chairman, Constitution and By-Laws Committee; Vice Pres. and Sales Mgr., Thos. C. Peters Co., Utica, N. Y. His dependability as an accurate parliamentarian can always be counted on at Craftsmen's conventions. He served as the first president of the Utica Club.
- Byron G. Culver, Chairman, Graphic Arts Education Committee; Head, Dept. of Printing, Rochester Institute of Technology, Rochester, N. Y. Completing his third appointment to this post, he is recognized as a leader in the printing education field. A past president of the Rochester Club.
- Howard N. Keefe, Intl. Historian; Sales Representative, Cincinnati Lithographing Co., Cincinnati, O. A graduate of Carnegie Institute of Technology, he has served in production capacities with a number of printing companies. He is a Past Pres. of the Cincinnati Craftsmen's Club.

FRIEDENBERG

LARSON

BERNARD

GUTWEIN

LACHAPELLE

B. S. PETERS

HAMMEL

- Harry B. Friedenberg, Chairman, Participating Memberships Committee; General Supt. and Production Mgr., Safran Printing Co., Detroit, Mich. His program for the past two years has been designed toward getting printers in foreign lands to participate in the Craftsmen's movement.
- Floyd C. Larson, Chairman, Intl. Printing Week Committee; Director, U. S. Navy Printing Office, Great Lakes, Ill. His early work on 1955 Printing Week indicates another outstanding celebration of this observance. He is now doing a real job as President of the Chicago Club.
- Peter J. Bernard, Chairman, Safety Committee; Director of Personnel and Safety, H. Wolff Book Mfg. Co., Inc., New York, N. Y. His part in the organization of the Safety Clinic in New York was a valuable contribution to the Share Your Knowledge movement. A graduate of Pratt Institute.
- William F. Gutwein, Chairman, Supervisory Training Committee; President, Wm. F. Gutwein, Inc., Louisville, Ky. He is a popular speaker on industrial relations among Craftsmen's groups. He formerly was in charge of employee relations with C. T. Dearing Printing Co., Louisville.
- Roland J. Lachapelle, Representative, First District; New England Mgr., E. P. Lawson Co., Inc., Boston, Mass. He has also been associated with the Lawson firm in Hartford, Conn., Montreal, Can., and Providence, R. I. He is a member of the Boston Litho Club. His hobby is skeet shooting.
- Bradley S. Peters, Representative, Second District; Secretary and Superintendent, Thos. C. Peters Printing Co., Inc., Utica, N. Y. He fulfills his second successive appointment to this district post. He participates actively in the affairs of the Utica Club and is a past president.
- William H. Hammel, Deputy Representative, Second District; Branch Mgr., Bingham Brothers Co., Jersey City, N. J. He is a member of the Newark Craftsmen's Club. He holds a Bachelor of Science from New York University. He formerly was in sales with Firestone Tire & Rubber Co.

LECOMTE DAVIS KEATING CRAMER LARSEN ELLIS CHEATHAM

- Henri B. Lecomte, Representative, Third District; John P. Smith Co., Inc., Rochester, N. Y. He has been a highly successful organizer of Printing Week among the Canadian clubs of the Third District. He has been a working member of the Rochester Craftsmen's Club for 12 years.
- Eugene H. Davis, Representative, Fourth District; Branch Mgr., Interchemical Corp., Printing Ink Div., Philadelphia, Pa. He served last year as deputy representative in the same district. He has been with IPI for 30 years and is a member of the Philadelphia Craftsmen's Club.
- James T. Keating, Deputy Representative, Fourth District, Branch Mgr., Bingham Brothers Co., Baltimore, Md. A newcomer to International ranks, he has served in the capacity of treasurer of the Baltimore Craftsmen's Club. He has been with his present company for seven years.
- Ken N. Cramer, Representative, Fifth District; District Mgr., Ideal Roller & Mfg. Co., Cincinnati, O. He completes another year of service to the clubs of the Fifth District. Previously, he was deputy representative. He has been a member of the Cincinnati Club since 1934.
- Carl H. Larsen, Deputy Representative, Fifth District; Sales Representative, Braden Sutphin Ink Co., Indianapolis, Ind. This has been his second year in this International position. Previously, he was with Universal Engraving Co. and Petrequin Paper Co., both of Cleveland.
- Earl S. Ellis, Representative, Sixth District; Sales Mgr., Western States Envelope Co., Milwaukee, Wis. He was reappointed last year to represent the Sixth District clubs. He is a past president of the Milwaukee-Racine Club and has been identified with Craftsmanship since 1935.
- Frank Cheatham, Representative, Seventh District; Sales Representative, Interchemical Corp., Printing Ink Div., Atlanta, Ga. He is active for his company in the South Carolina and Georgia areas. Previously, he was pressroom foreman and plant superintendent of Dittler Bros., Atlanta, Ga.

EDWARDS PRUCHA J. C. BRAZNELL BAKER MARTIN COMFORT NIELSEN

- Ben Edwards, Representative, Eighth District; President and Manager, Edwards Typographic Service, Inc., and Secretary, Kel Litho Artists, both of Wichita, Kan. He is past president of the Wichita Club and the Eighth District, and completes a second year in his International job.
- Alvin F. Prucha, Deputy Representative, Eighth District; Co-Owner, Service Press Co., Cedar Rapids, Ia. A graduate of Iowa State College, he holds a Bachelor of Science Degree in Electrical Engineering. He is a past president of the Cedar Rapids Club of Printing House Craftsmen.
- John C. Braznell, Deputy Representative, Eighth District; Secretary and Treasurer, Braznell Company, St. Louis, Mo. Trouble shooting and product development for his company appeal to him most. He is active in the St. Louis Club and has attended Washington University, St. Louis.
- Fred R. Baker, Representative, Ninth District; Sales-Service Representative, Interchemical Corp., Printing Ink Div., Fort Worth, Tex. He has been with IPI for four years. He was previously associated with Geo. H. Morrill Co., Div. of Sun Chemical Corp. Officer of the Ft. Worth Club.
- George Y. Martin, Representative, Tenth District; Superintendent, The College Press, Oregon State College, Corvallis, Ore. He holds a Bachelor of Science Degree from South Dakota State College. He is a past president of the Portland (Ore.) Club of Printing House Craftsmen.
- Kenneth Comfort, Deputy Representative, Tenth District; Owner, Pilot Press, Seattle, Wash. He has been with the company he now owns for 20 years. He has served as president of the Seattle Craftsmen's Club and has been active in the Pacific Society of Printing House Craftsmen.
- Peter D. Nielsen, Representative, Eleventh District; Mgr. of Research Engineering, Pacific Div., Moore Business Forms, Inc., Emeryville, Calif. A member of the San Francisco and East Bay Craftsmen's Clubs and a past president of the former organization. He has been with Moore for 33 years.

SIMS LORD CHUKA MATSON THRELFALL NORBECK

- **Harry A. Sims, Deputy Representative, Eleventh District; Vice Pres. and Plant Supt., West Coast Printing Co., Oakland, Calif. He formerly was with Inter-City Express Publishing Co. He served as the first president of the East Bay Craftsmen's Club during the 1952-53 term.**
- **Blair Lord, Representative, Twelfth District; Superintendent, Rubidoux Printing Co., Riverside, Calif. He has been with the Rubidoux firm for nearly 20 years. He is a past president of the Citrus Belt Craftsmen's Club and was secretary-treasurer of the Pacific Craftsmen's Society.**
- **Andy Chuka, Deputy Representative, Twelfth District; Owner, Andy Chuka Print Shop, Phoenix, Ariz. He is the fun-loving character of International conventions who at the Dallas convention displayed his book *What Kinsey Knows About Women*.**
- **Gordon T. Matson, Deputy Representative, Twelfth District; Owner, Modern Typesetting Co., Los Angeles, Calif. He has been identified with his present company for nine years. Actual supervision of his own business is the part he enjoys most. Hunting and fishing are among his hobbies.**
- **Herbert Threlfall, Representative, Thirteenth District; President and Treasurer, John F. Greene Co., Inc., Providence, R. I. A familiar figure in International circles, he represents clubs in Cape Town, South Africa, and Havana, Cuba. A past president of the Providence Club.**
- **Abel O. Norbeck, Representative, Fourteenth District; Upper Midwest Distributor, Lewis Roberts, Inc., Minneapolis, Minn. Previously worked 23 years as pressroom foreman and cylinder pressman. Present Vice Pres. of Minneapolis Club. Attended University of Wisconsin.**

Magnesium

in the Graphic Arts Industry

By EDWARD R. OWEN*

**Vice Pres. and General Mgr., Engravers, Inc., Richmond, Va. Address delivered before Fifth District Craftsmen's Conference, Pittsburgh, Pa., June 1954.*

MAGNESIUM is not the panacea for all our printing plate ills. Magnesium is the lightest commercially available metal with characteristics that make it applicable to the printing industry in ways that are practical and economical.

Magnesium has been available to the Graphic Arts industry for approx. eight years. We should compare this with the first use of rolled zinc in the U. S. in 1870, and with the use of rolled copper in 1892. The elapsed period for zinc is 84 years and for copper 62 years. The shop techniques we are using so successfully have been developed over these years, and only slight modifications are necessary to fit this comparatively new metal into our production. The future use of magnesium indicates radical changes from present practice. Those recognizing its advantages now will have a more gradual transition period and therefore less production headaches.

It was my privilege to put the engraving department of the Mercury Press in Washington, D. C., on an exclusive magnesium production in March 1948. The new plant that I installed in Richmond, Va., went into operation on March 1, and has been on an exclusive magnesium operation since the end of March. Over six years of supervision of magnesium production assures me of its advantages both to the processor and to the user, and contacts with other magnesium processors throughout the country permit me to report to you something of its present use.

Preparing for Resist Coating

Experience shows that preparing the magnesium sheet for resist coating needs most attention. Chemical reactions to form a chromate film on the metal surface at the time of the sink scrubbing is usual to bring about a passivating or insulating film on the surface. This surface film prevents harmful reactions from faucet water chemicals such as chlorine, which cause poor bonding of the resist. Other chemicals such as fluorides are working well for this purpose.

As the problem of bothersome cations (negative ions) in faucet water is recognized, even to some degree harmful on zinc, installation of an ion exchange unit will eliminate troubles from this source.

PARTICIPATION—CO-OPERATION
KEEP SUPERVISORS INFORMED
WHEN RESPONSIBILITY COMMENCES

In speaking before Professional Conference for Top Management and Personnel Executives (auspices of PIA) at Hotel Statler, June 22, Special Activities Director R. E. Alexander, Standard Register Co., Dayton, O., discussed personnel relations, employee attitudes and supervisory relations. With respect to foremen in particular, Alexander dropped four gems regarding management-foreman relations, as follows:

1. That men carry into action best that which they have had a part in forming.
2. Follow the simple principle that two heads are better than one.
3. All must be kept informed—more supervisors and foremen fail from lack of information than from lack of ability.
4. Along with foreman participation in management goes responsibility.

At this time the most popular resist is shellac in alkaline solution at about pH 9.5. The Gaco solution of polyvinyl alcohol is proving best for quality work and the only practical resist for the Dow etch process.

Metal Recrystallization

Recrystallization of metals is receiving increased attention as the dimensional stability of a metal is dependent on this property. Each alloy has a particular temperature at which the grain size will start to grow. As the critical temperature is reached a flow action causes the fine grains to join together into larger ones resulting in the metal losing its fine grain characteristics of surface hardness, elasticity and etch smoothness. The usual zinc alloy starts this grain growth at about 200 deg. F., copper starts at about 390 deg. F. and the magnesium alloy known as Zomag starts at about 400 deg. F. The glue hot top used on copper burns in at 550 deg. F., and zinc is processed in etching at 212 deg. F. Zomag processed as zinc or with the above mentioned Gaco resist which is baked up to 375 deg. F. is still within its critical temperature. This makes for exact register on full page newspaper color work and one reason why the Milwaukee (Wis.) *Journal* has been on a Zomag program for some time.

Etching Bath

Etching with nitric acid is still best at about 7% as compared with the usual 10% or more for zinc. In the Dow etch process a modified nitric acid bath is used. Zomag's good heat diffusive properties make the etch powder burn-in and cooling faster, the same property giving good heat-set adhesive mounting on wood or metal base.

"Great luck! I'm a reader of *Printing Equipment Engineer*, too!"

Direct Printing Value

The production value of magnesium is recognized by newspaper plate producers, one large plant in Detroit producing up to 160 flats (18 in. by 24 in.) per week. The future indicates more direct printing in this field. For over four years weekly newspapers in Florida have been direct printed from 16 ga. magnesium plates. For the past few months, quality 85 screen four color covers have appeared on these Florida tabloids all direct printed from magnesium plates. A prototype press specially designed for these light weight plates is in operation and when the final full scale press is in operation it will allow greater speed with improved color registration.

For over three years the Mercury Press in Washington, D. C., produced a direct-printed English finish cover for a weekly tabloid. This was an overall halftone in 85 screen processed flat on 0.032 in. magnesium. It was curved cold and fastened to a stereotype dummy saddle with double-coated Scotch tape for press cylinder mounting. Extruded magnesium tubing turned down to exact dimensions is proving more practical for the cylinder saddle.

Plate Curving Equipment Needed

The need is apparent for development of equipment that can be liquid heated to about 500 deg. F. and with the use of Minnesota Scoth Weld Film pressure curve the photoengraved plate onto the adhesive material and so bond the plate to the saddle. Cooling liquid could then be run through making the plate immediately available to the press. This would make use of established processing in the flat form and curving to the press cylinder so economical in offset. A routine method of this nature would make full use of the Dow etch process in the relief rotary print field.

Etching

The Dow etch process is now etching a magnesium plate to a depth of 0.022 in. in from 6 min. to 10 min. This takes the bottleneck out of the etching department and backs it up to the photoprinting department.

Pre-coated Metal

The logical step to keep up production will be to follow the offset lead and have pre-coated metal.

It was my privilege to process several sheets of magnesium coated by the Eastman Kodak Co. with its KPR resist.

QUESTIONS FOR MANAGEMENT TO ASK ITSELF

Printing Equipment Engineer applauds in particular six questions which management should ask itself when formulating or reviewing its policies with respect to supervisory personnel. These were discussed by Dr. Glenn U. Cleeton, Dean, School of Printing Management, Carnegie Institute of Technology, before the PIA Professional Conference for Top Management, Hotel Statler, Washington, D. C., June 1954. Management has always thought that the average employee needs education regarding supervisory functions. In turn, we insist that in many cases management likewise needs a liberal education with respect to its supervisory personnel attitudes.

Dr. Cleeton stated in part: "Top management gives general directions and determines policies, with or without assistance and advice from intermediate management. If policies are to be carried out, suitable managerial and administrative ability must be found among persons who hold the responsibility of such important positions as sales manager, auditor, production manager, supervisor of design, plant superintendent and other position classifications depending upon the company".

When formulating or reviewing supervisory functions, management should ask itself the following pertinent questions:

1. How well do top officials now know the persons working under their direction?
2. Have the jobs that key personnel hold been defined as to function?
3. Has there been appropriate delegation of responsibility and authority to persons who report to top management?
4. Is each key personnel job being understudied?
5. Is there unidentified talent within the organization which might be utilized at some future time?
6. Would it be necessary to go outside the company to fill any of the key jobs if they should be vacated suddenly?

These sheets were about three months old when we processed them and the results were equal to plates coated in the plant. The working out of production details will make this a welcome innovation to the trade.

Rockwell Tests

The Rockwell E test of hardness shows the present magnesium alloy to be 78-82. Comparing this with zinc at 60-66, and copper at 84-87, we find magnesium compares favorably with copper which plus a work hardening property makes for long press life effective in the flatbed 11 pt. field. Book publishers are the volume users in this field and phototypesetting coupled with the Dow etch is producing for these people in the New England area. The uniform metal surface of book plate sheets of 11 pt. held to ± 0.001 in. almost eliminates makeready time. The World Publishing Co., Cleveland, printed the first Bible from 11 pt. magnesium plates and the plates have been back on the press several times for re-runs.

Magnesium Durability

One Washington printer used 11 pt. plates bonded to cast magnesium base and ran them with new electros of the same subject. The electros were worn out at 750,000 and at the last report the magnesium plates were still printing at 1,250,000. With the established etching practice the 11 pt. is economical to handle. The speed of etching, heating and cooling, coupled with one-quarter the weight of zinc allows a small markup over 16 ga. pricing, bringing these plates within the price range of electros when all factors are considered. The experience of the printer with these plates enables him to compete with offset. Use of typeproof pasteup with art work produces one overall page plate eliminating most lockup and makeready. One Washington printer used this method to produce a 16 page brochure at a plate cost of approx. $600. Previously, the work was done by offset.

Curving Methods

Curving 11 pt. plates in the cold state is practical. There is some stretch but it is uniform and can be controlled. A recent issue of the *Magazine of Magnesium* published by Brooks & Perkins, Detroit was printed from curved 11 pt. plates which were heated. In the May issue of the magazine is told the story of the new Magplate Corporation. Through the joint efforts of the Detroit Colortype Co. and Books & Perkins there will soon be available to photoengravers a precision magnesium sheet with a gauge tolerance of ± 0.0005 in. These plates can be processed by the photoengraver and then sent to an established curving service shop to be precision curved, thus making every photoengraver a potential producer of curved press plates.

The surface hardness and work hardening property make Zomag an ideal matting plate. Well over 1000 mats with no distortion is common with mat services. The Milwaukee (Wis.) *Journal*, leading newspaper color producer, and now providing a color mat service, for almost a year has been on Zomag production.

Relief Offset

Relief offset is receiving increasing attention with the application of thin gauge magnesium. Most of the work done in this field is on 0.025 in. sheet. Three of the largest form printers in the country are doing a large volume of work by this process, as are more metal decorators. A visit to the McBee plant in Athens, O., showed a modern air-conditioned platemaking department. Thin magnesium sheet is being resist coated from 24 hrs. to 3 wks. ahead of photoprinting. A custom-built four unit 30 in. web press is used to print relief offset forms with spot carbon at a saving of many dollars per thousand over previous methods. The elimination of water by relief offset allows greater flexibility of ink choice, printing on any stock, press stopping with no attention to the press plate and runs up to 30 million.

Magnesium Cylinders

A well developed use of magnesium is exhibited in the Dixie cup printing cylinders known as Magnasleeves, produced by the Industrial Engraving Co., Easton, Pa. Extruded magnesium cylinders are supplied by the Dow Chemical Co., in four sizes. From these, nine press sleeve sizes are obtained by varying the inside bore and the outside machining. Specially developed equipment allows the cylinders to be processed by the usual photoengraved methods. Cold top resist coating the cylinder, photoprinting the image from film, conventional etching, all completed in one 8 hr. shift. All cylinders are chrome plated by the Dixie cup people before printing. These cylinders are changed on the press in 15 min. as compared with 3 hrs. for electros, which they outlast 3 to 1, running from 15 to 20 million. Where the sleeve is not practical for a particular type press it is sectioned parallel to the press cylinder axis and clamped on in pieces. The uniform contour of these sleeves allows a kiss impression and accounts for the long life.

Volume users of magnesium plates content they have had to push their engravers into processing of magnesium, and this may be so in some areas. However, in fairness to the engraver we must recognize that the future seems to indicate radical changes in procedure—phototypesetting, rapid etching, precoated metal, all of which will require different equipment from that now in use. A back-log of orders is already established for the Dow etch machine.

Summary

In summation, we find that magnesium has some advantages. Its light weight making for general handling ease, its fine grain structure with resultant etching speed make for tone smoothness and inherent strength. Magnesium is fitting into established practice, and opening new fields of application. It will help to retain volume printing in the letterpress field, and is an aid to long run offset.

Offset Duplicator Techniques

Original edition by Richard Caruzzi. Edited and revised by Fred W. Hoch and Carl B. Harris

THE 96 pages of this manual contain 539 items of index information on offset duplicator techniques. Of the 17 chapters, special attention has been given to the revision of those pertaining to photography, chemistry, plates and platemaking, type and typesetting, and preparation of copy. New methods, materials and machines now used have been added to bring the book up to date. More than 100 illustrations accompany the text in explaining the different procedures.

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PRINTING EQUIPMENT *Engineer*

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Setting Type By Hand To Narrow Measure

Setting lines of small type to very narrow measure in a stick is a problem to one not used to this kind of composition. It is easy to wind up with a mess of pi. The job is made easier by setting the stick to a wider measure than required. For example, if a column of 8 pt. 6 picas wide is required, the stick may be set for say 13 picas. At the start, the 6 pica line of text is set and the other 7 picas of the line quadded out but separated from the 6 picas by a 3-to-em quad in each line. Each line is set in the same way. If to be leaded, each pair of lines may be separated by a 6 and a 7 pica lead. The type and quads in the stick may be wetted with water before transferring the stickful to the galley as a further safeguard against pi. This is elemental but it is better to be simple than sorry. The fill-in is separated from the composition on the galley.

MAGNESIUM— READY OR NOT?

(Reprinted from May 1954 issue of *Galley Proof*)

THE recent build-up in interest on the subject of magnesium plates has given rise to several inquiries from our members. While it is not possible to cover all the current information on this interesting subject, we believe the following digest of recent developments will answer many questions.

Unfortunately, magnesium for use in making line and halftone photoengravings was announced several years ago with an unwarranted amount of enthusiasm. When the limitations were weighed against the advantages, the material received small acceptance. Continued experiments, however, resulted in improvements in techniques and a greater understanding of the possibilities for wider application.

The "indirect letterpress" or "dry offset" flurry now in progress encompasses the use of magnesium plates on standard offset presses or on offset presses converted by substituting a letterpress patent-base cylinder for the offset plate cylinder. This latter method is of particular application in the box field, where costly plate smashups can be almost eliminated. One complication here lies in the necessity for using "reverse position" plates, since conventional plates if used, would create a transposed image on the paper, after transferring via the blanket cylinder.

Experiments in the use of magnesium for letterpress photoengravings have been widely conducted in many plants. Since this is the field of greatest interest, it is naturally the area of greatest rumor and mis-information. In Illinois, at least one engraver seems to be letting his sales enthusiasm outrun the judgment of the technicians who have been quoted recently.

Members have been told (usually by customers) that magnesium plates are "Better than Copper—Cheaper than Zinc" and they are available on normal production basis at "15% over zinc scale."

Actually, line engravings are being produced successfully and in good quality without difficulty by a number of plants. We know of only two who are offering halftones on a production rather than an experimental basis.

Of major importance in the future position of magnesium, is the new Dow Chemical Etching Machine. Demonstrations indicate that it will go a long way toward improving quality and speeding production. We know of one machine recently delivered in Chicago and of several more on order. After engravers have had time to evaluate this new equipment, the next chapter in the "Cost-Quality" story will be written.

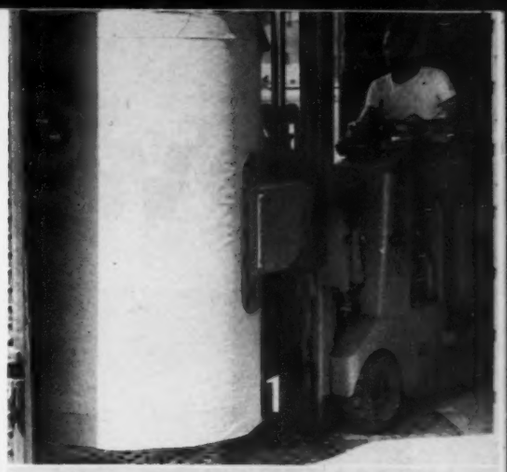
We would like to point out that one engraver who has worked with magnesium almost since its introduction was recently quoted as saying that the metal showed definite advantages in strength, weight and ease of etching and machining. It's noted, however, that fine screen halftones cannot be produced at a cost less than zinc and that copper will give better tonal gradations with greater ease. Two other points of disadvantage should be considered:—while the fire hazard in working magnesium has perhaps been over-emphasized, it can be a factor when a printer generates excessive heat in routing, drilling or sawing a plate with a dull tool. Magnesium is extremely sensitive to liquids; even tap water will set up a reaction. Prompt removal of perspiration drops or moist finger marks and careful selection of storage space, seems indicated.

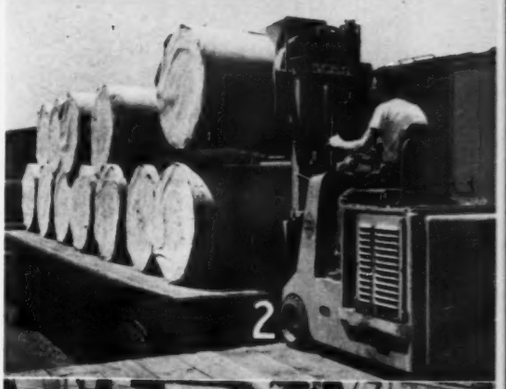
So, we suggest you invest in a couple of magnesium halftones, if and when they are offered to you. Check their cost, quality and performance carefully and judge for yourself.

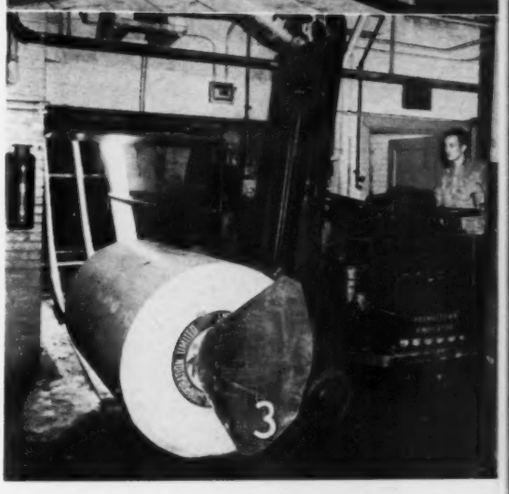
Improves Handling of Paper Rolls

THE lack of a railroad siding at the plant of the Youngstown (O.) *Vindicator*, necessitated the removal of incoming rolls of paper from freight cars at a distant railroad warehouse. After unloading, the rolls were stored on the site or delivered to the plant by street truck. Thirty carloads were unloaded each month, totalling between 11,000 T. and 12,000 T. of newsprint per year. Manual handling methods employed frequently resulted in unnecessary paper damage and the use of a disproportionate amount of storage space, both at the railroad siding and at the main plant.

To combat this roll handling problem, the newspaper recently purchased two Elwell-Parker fork trucks. One of these trucks, used for unloading the freight cars, is equipped with a rotary roll paper clamp. The other is equipped with a rotating roll paper apron, and is used in the basement of the newspaper's warehouse for storing rolls when they are delivered by the street truck. In addition, this latter vehicle transfers needed paper from the storage area to the presses.







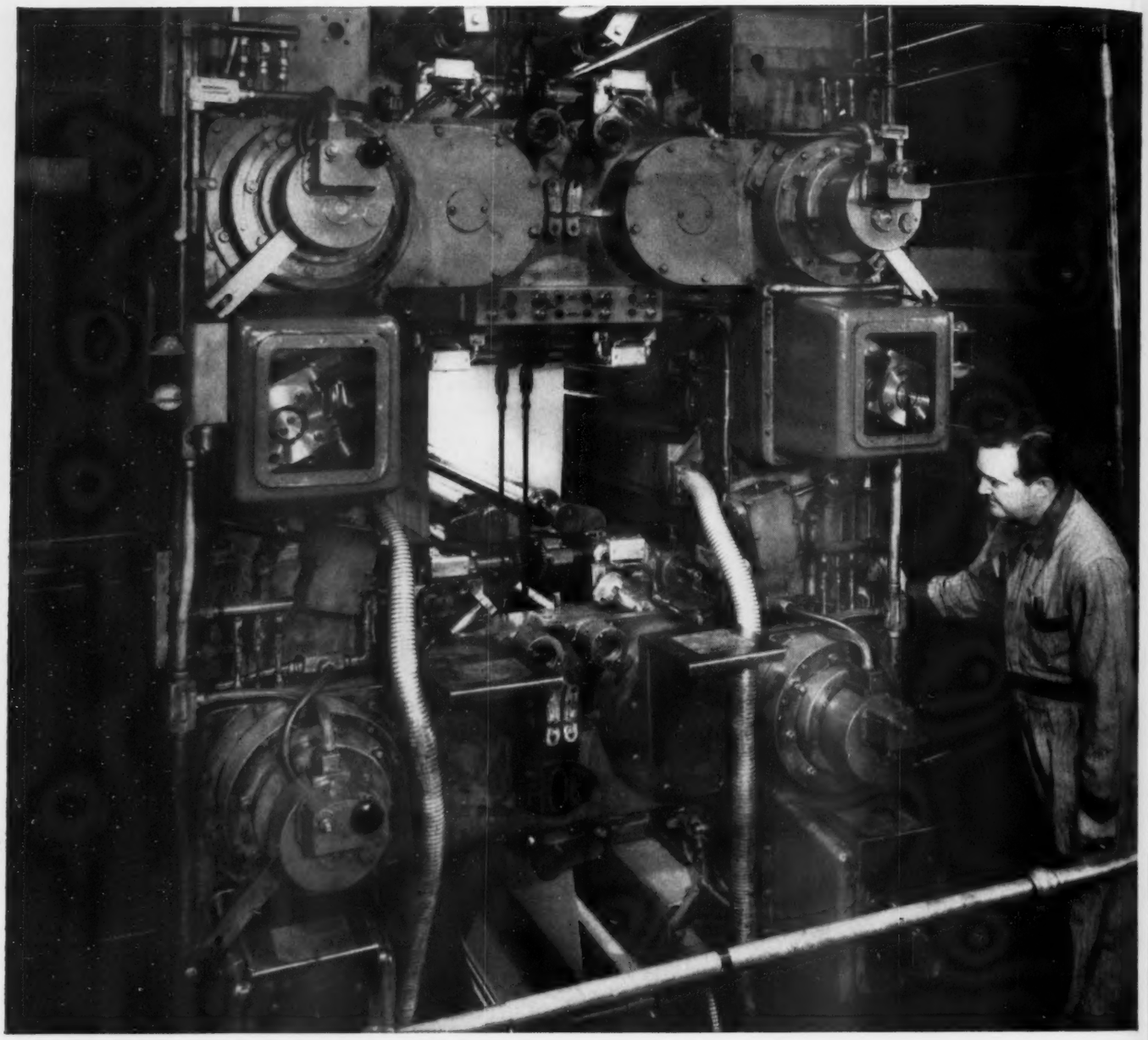
Paper Roll Handling Methods at Youngstown (O.) *Vindicator*

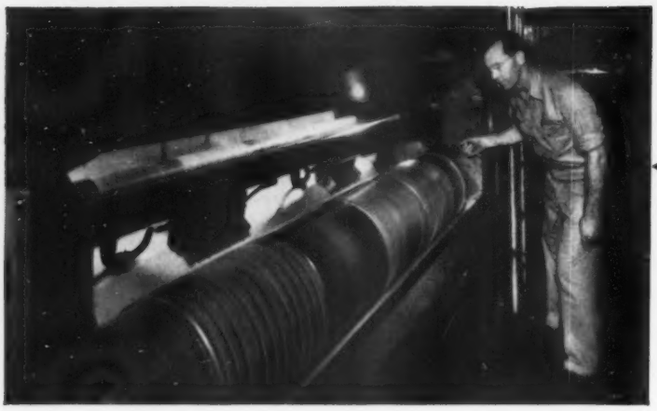
1.—When incoming rolls are jammed tightly against the side of the rail car, they can be gripped by this Elwell-Parker fork truck equipped with a paper roll clamp. The 360 deg. rotation feature of the attachment permits locating the fixed jaw on either side depending on requirements.
2.—Rolls are placed on a street truck for delivery to the Youngstown (O.) *Vindicator* plant. The clamp truck makes it possible to load and carry 13 rolls in one trip to the plant.
3.—A fork truck equipped with an apron picks up the rolls as they come down the ramp into the plant. From here they are delivered to storage. Rolls are stored vertically, with a horizontal row on top.

Three to five men were previously needed to unload at the rail siding. Sometimes it was necessary to rent an outside fork truck to ease the manual effort. Now, in 1½ hrs., it is reported two men accomplish the same job with the clamp truck at an estimated cost reduction of 50%. In addition, 25% more rolls can be stored in the same area.

Formerly done manually, the street truck loading operation for movement to the plant, took three men nearly 4 hrs Five trips were required of the over-the-road vehicle to deliver the paper from one rail car. With the clamp truck, reports state, two men (including the operator) complete the job of unloading a rail car in 2½ hrs. with less than three trips required of the street truck. Finally, twice the previous number of rolls can now be stored at the plant when stacked by the apron truck.

How Milwaukee





Full color deck equipped with Hurletron Automatic Circumferential Register Control.

Web viewing scanners in operating position.

Master Control Panel located at folder.

Journal *Registers* Full R.O.P. Color *Automatically*

Maintains multi-color register at all operating speeds

Now . . . R.O.P. Color becomes practical . . . and profitable . . . for any progressive, advertising-minded newspaper.

Practical **. . . because the old-time hazards, delays, costs and heartbreaks have been reduced or eliminated. And that's no exaggeration. Today . . . at Milwaukee Journal, as well as at Washington Post and Times-Herald . . . R.O.P. Color is running at high speed day and night. And, fast or slow, top quality multi-color register is maintained throughout the run to an amazingly high degree of perfection . . . and to the complete satisfaction of advertisers and subscribers.**

Profitable **. . . because advertisers love it. They know the pulling power of color. They'll buy it. They're buying plenty of it now . . . and paying handsomely for it. But they demand accurate register throughout the run. Now they can have it . . . and you can give it to them.**

HURLETRON Automatic Circumferential Register Control

Also used for web-fed letterpress printing.

This remarkable electronic equipment is not new. Practically every color rotogravure printing plant in the country has been using Hurletron Register Controls for years. And where will you find finer examples of accurate color register at high speed?

Now, this same equipment has been adapted successfully to R.O.P. Color for newspaper presses. Its practical value and profitability have been fully demonstrated and proved at Milwaukee Journal and Washington Post and Times-Herald.

Here are a few of the advantages this equipment provides:

1. Accurate, automatic register of all colors within a few thousandths of an inch.

2. Holds register established at low speeds up to highest operating speed.

3. High speed corrections at splices reduces the number of bad copies.

4. Exclusive patented ink mist expelling web scanner eliminates cleaning.

5. Provides pressman with continuous indication of running register and enables him to make adjustments in register in known increments.

6. Simple, easy operation.

Check these advantages carefully. See what you have. Accurate register with a resultant high quality, easily saleable product . . . minimum manpower requirements . . . greatly reduced waste of printed stock. Added up they mean self-liquidation of the control equipment in less than a year on the average newspaper press printing color.

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Manufacturers of Hurletron automatic controls for Paper and Board Caliper and Weight; Center Line and Side Web Guide; Cut-off and Back-Up; Moisture.

Lexicon *of photomechanical terms used by platemakers for the three major processes—Key to uses of negative and positive transparencies.*

By GEORGE JOS. LENZER

IT IS important to know that best results in photomechanical operations will be obtained when negatives and positives are employed with the emulsion side always in direct contact with the emulsions or plate sensitized coatings on photographic films, plates or printing plates, regardless of process, while making contact exposures.

Exceptions to this rule are cited in the text, such as those of camera exposures when photographic transparencies are used as photographic copy, or where contact exposures are made through the back side of an exposed film, while in contact with the emulsion side of an unexposed film or plate.

All illustrated transparencies, Figs. 1 to 6, 9 to 14 and 17 including the color separation negatives, represent the emulsion side of the negatives or positives described in the text. The term Front or Face side is also applied to the image-bearing emulsion side of the negative or positive.

The Back side of a negative or positive applies to the non-image bearing or side opposite to the emulsion, *i.e.*, opposite the Front or Face side of the negative or positive.

Figs. 7, 8 and 16 represent Emulsion to Emulsion contact printing. They also represent the manner of placement when exposing the process printing plate. The uppermost element represents the negative or positive (Emulsion or Face side down) being exposed, while the underneath element represents the unexposed photographic film or glass plate, or the process printing plate (Emulsion side or Sensitized side up) when being contact printed.

The term Face Up means that an exposure is to be made through the Back or opposite side of a film or glass plate. Face Down means; Make an emulsion to emulsion contact exposure.

Invert is a term meaning to position the negative or positive image bottom side up.

The term Reverse or Reversal should not be confused with the term Face Side, Back Side, or any reference to the side opposite the Emulsion side of a photographic film or glass plate. Definition for the term Reverse is found in the text.

Key for Various Processes

In the top row sectional diagrams of the accompanying chart are shown sections of plates and how they function to print by each process. Shown are Offset (Planographic and Deep Etch), Relief (Letterpress), Intaglio (Gravure), Litho (Direct Litho), and Collotype (Gelatine surface) plates.

A—OFFSET (PLANOGRAPHIC PRINTING)

Process — Mechano-physi-chemical; from a plane surface via water and ink.

Platemaking Requirements — Wrong reading positives or negatives, line or halftone.

Transparencies Required—1,2,3,4,5,6,7,8, 9,10,11,12,13,14,16,17,18.

Printing Image—Right reading.

Printed Impression—Obtained by secondary ink transfer from plate to rubber blanket, to paper, textile, metal or other material.

B—PHOTOENGRAVING (RELIEF PRINTING)

Process — Mechanical; from a raised printing surface.

Platemaking Requirements — Right reading negatives or positives, line or halftone.

Transparencies Required — 1,2,3,4,5,10, 12,14,16,17.

Printing Image—Wrong reading.

Printed Impression—Obtained by direct contact transfer of ink from the raised surface of a metal plate to the paper.

C—GRAVURE (INTAGLIO PRINTING)

Process — Mechanical; from sub-surface wells or depressions.

Platemaking Requirements—Right reading positives; continuous tone, line or halftone.

Transparencies Required — 1,2,3,4,11,13, 16,17.

Printing Image—Wrong reading.

Printed Impression—Obtained by vacuumatic suction transfer of ink from sub-surface wells or depressions to paper, plastics, metal foil or other material.

D—DIRECT LITHO. (PLANOGRAPHIC PRINTING)

Process — Mechano-physi-chemical; from a plane surface via water and ink.

Platemaking Requirements — Right or Wrong reading Negatives or Positives.

Transparencies Employed—1,2,3,4,5,6,10, 11,12,13,14,15.

Printing Image—Wrong reading.

Printed Impression—Direct transfer of ink from water moistened plane surfaced plate to paper, cloth or other material.

E—GELATINE; COLLOTYPE (PLANOGRAPHIC PRINTING)

Process — Mechano-physi-chemical; from a dampened gelatine surface on a plane metal plate via water and ink.

Platemaking Requirements—Right reading positives, continuous tone, line or halftone.

Transparencies Required—1,2,3,4,16.

Printing Image—Wrong reading.

Printed Impression—Obtained by direct transfer of ink from the gelatine coating to paper or other material.

Negative and Positive Transparencies

1—NEGATIVE:

Result of most camera exposures for all photographic processes. A wrong reading photographic image on film or glass. White on the copy is recorded as black and black on the copy is recorded as clear or transparent in the negative. May be either continuous tone, line or halftone.

2—POSITIVE:

Obtained by camera exposure of, or contact printing emulsion to emulsion or through the back of a film negative to the emulsion of an unexposed film or plate. A right reading photographic image on film or glass which is the exact opposite of the negative transparency. Clear or transparent areas in the negative will be recorded as black or gray in the positive while the black areas in the negative will appear clear or transparent in the positive.

3—CONTINUOUS TONE PROCESS NEGATIVE:

Obtained by camera exposure to original B&W or color copy through color light filters. Use—Color separations for color printing.

A photographic image on film or glass in which the tonal variations of the original copy or subject matter are recorded in graduated degrees of transparency or translucency. The wrong reading image is the direct opposite of the original copy.

4—CONTINUOUS TONE PROCESS POSITIVE:

Obtained by camera exposure to a wrong reading continuous tone negative transparency (color separation). A right reading or wrong reading image, on film or glass, which is the direct opposite of the negative transparency but closely approximates, in tonal values, the original copy or subject matter.

5—HALFTONE PROCESS NEGATIVE:

Direct — A wrong reading photographic image on glass or film obtained by camera exposure to reflected copy, through a cross ruled glass or plastic contact halftone screen. All tonal values and gradua-

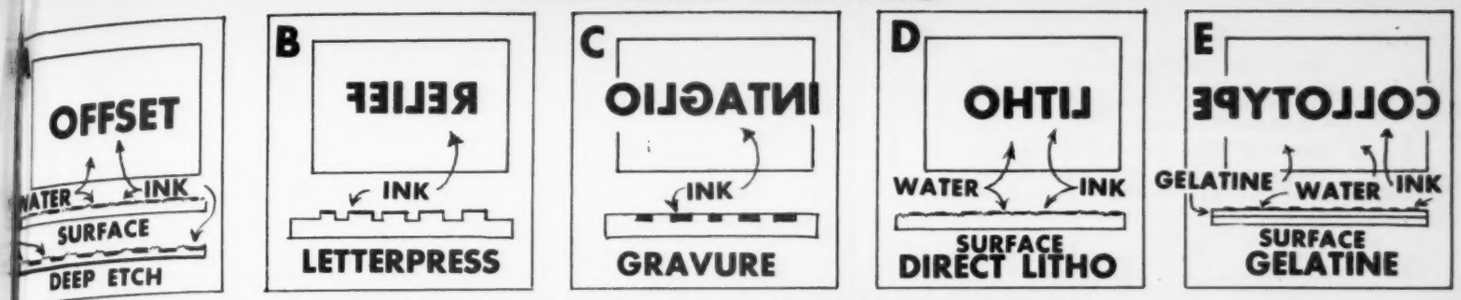
EDITOR'S NOTE:

This editor, as is the case with many printing executives, often has been bewildered by the photomechanical platemaker's lingo. This applies particularly to the many variations involved in the platemaking processes. After a number of requests, Lenzer came up with the chart and accompanying definitions.

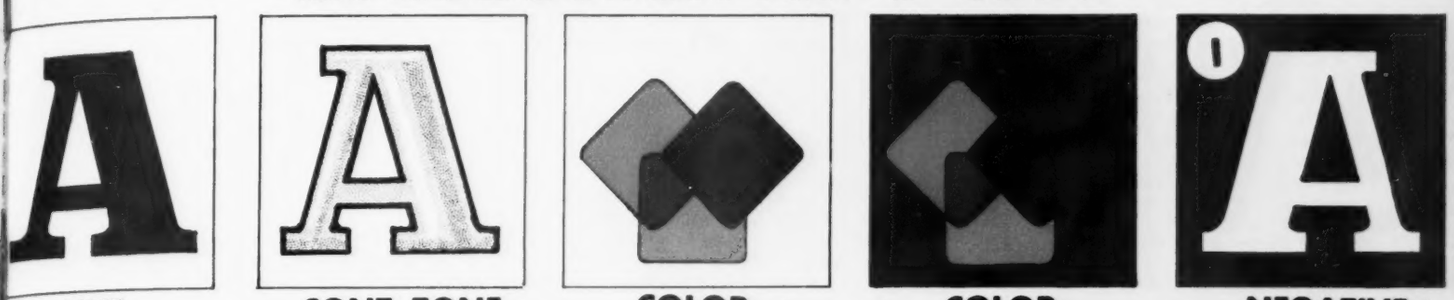
Lenzer has had a lifetime experience in the platemaking profession. He is a Cleveland lithographic dot etcher and color artist. He is the author of The ABC of Offset *currently appearing in* Printing Equipment Engineer.

We are glad to print the accompanying chart with definitions for reader reference purposes. No man not intimately engaged in the photomechanical processes could be expected to catalog these terms in his mind for quick reference. Anyhow, we hope our readers will find this editorial feature of value in their work—even some of those already engaged in platemaking by one of the other processes.

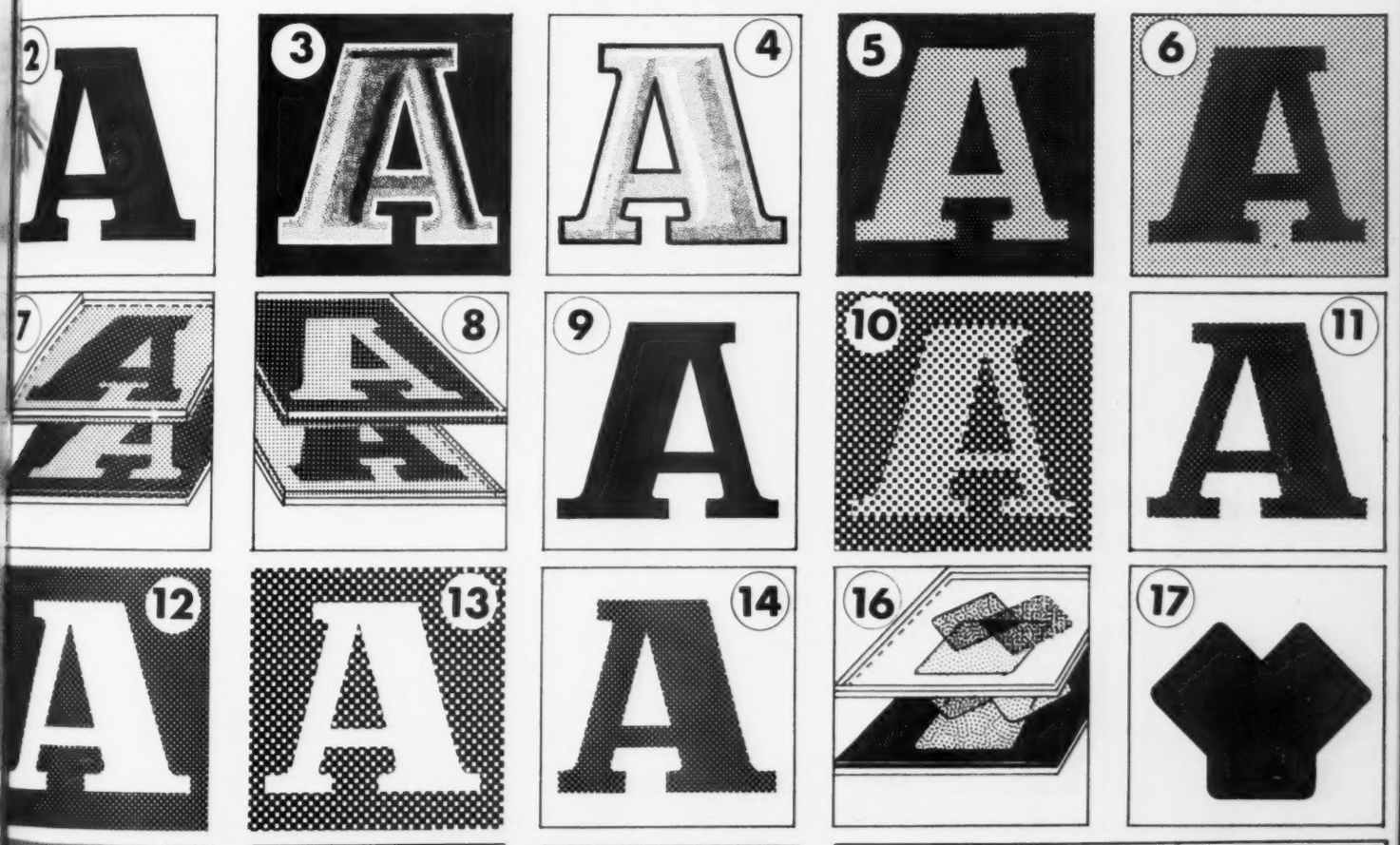
PROCESS PLATES

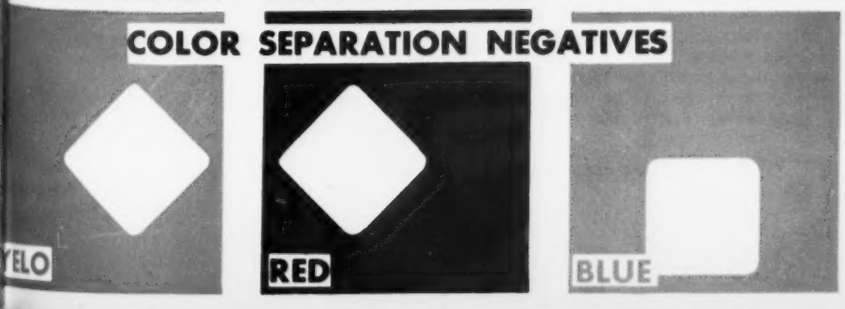


REPRODUCTION ART & COPY



TRANSPARENCIES





IDENTIFICATION MARKS

FOR COLOR NEGATIVES

FILM		GLASS
O . . .	YELO	I
OO . .	RED	II
OOO . .	BLUE	III
OOOO .	BLACK	IIII

PUNCH HOLES — SCRATCHES

LENZER '55

tions in the original art or copy is recorded in the negative as transparent areas and dots of varying sizes and shapes surrounded by opaque black areas and dots of various sizes and shapes.

Indirect—A wrong reading photographic image on film or glass obtained by camera exposure to the back side of an inverted wrong reading, or to the emulsion side of a right reading continuous tone positive transparency. Exposure is made through the same kinds or types of halftone screens mentioned above. Tonal values and graduations comprising the positive image will be recorded in tonal graduations of transparent areas and dots surrounded by opaque or gray areas and dots of varying sizes and shapes.

6—HALFTONE PROCESS POSITIVE:

A wrong reading photographic halftone image on film or glass obtained by camera exposure to a continuous tone negative transparency through a cross ruled or a plastic contact halftone screen. All tonal variations in the original copy are recorded in the positive as opaque areas and dots of varying sizes and shapes surrounded by transparent areas and dots of various sizes and shapes.

7—CONTACT HALFTONE PROCESS NEGATIVE:

A wrong reading photographic halftone image on film or glass obtained by contact printing (emulsion to emulsion), of an unexposed film or glass to a right reading halftone positive or; by exposing an unexposed film or glass plate to the back side of a thin base film, wrong reading halftone positive. The printing image is composed of transparent areas and dots of varying sizes and shapes surrounded by opaque black areas and dots of various sizes and shapes.

8—CONTACT HALFTONE PROCESS POSITIVE:

This is a wrong reading photographic halftone image on glass or film obtained by contact printing (emulsion to emulsion), of an unexposed film or glass plate to a right reading halftone negative or, by exposing the emulsion side of an unexposed film or glass plate to the back side of a thin base film, wrong reading halftone negative. The silver image is composed of opaque black areas and dots of varying sizes and shapes surrounded by transparent areas and dots of various sizes and shapes.

9—NEGATIVE Negative or NEGATIVE REVERSAL:

This is a wrong reading photographic image on film or glass in which the silver image is an exact or approximate duplication of the original copy or subject matter. White in the copy will be clear or transparent and the black in the copy will be black in the negative.

A halftone negative of this kind is essential in the albumen process where an image reversal in the printed reproduction is required. The printed reproduction will be the exact opposite of the original copy, *i.e.*, black type on a white ground will reproduce as white type on a black ground on the printed sheet.

10—Negative POSITIVE or IMAGE REVERSAL:

This is a wrong reading photographic halftone image on film or glass in which the image is the exact opposite or reverse of the original copy or subject matter. White in the original copy is recorded as black and the black in the original is recorded as clear transparency.

A positive of this kind is essential for the deep-etch process whenever copy in the original is to be an axact or approximate reversal on the printed sheet. Black on a white ground appearing in the original will reproduce as white on a black ground on the printed sheet.

11—Positive POSITIVE:

A right reading photographic halftone image on film or glass which is an axact duplication of the original art or copy. Black in the copy will be recorded as black; white in the original will be clear transparency in the positive.

A positive of this kind is necessary in the production of deep-etch plates for direct lithographic printing, where the printing image of the plate must be wrong reading. Also adaptable to photo engraved plates where wrong reading printing images are required.

12—Positive NEGATIVE:

A right reading photographic halftone image on film or glass in which whites of the original copy are recorded as opaque black areas and dots of varying sizes and shapes surrounded by clear or transparent areas and dots of various sizes and shapes representing the black appearing in the original. A negative of this kind is required in the production of albumen plates for direct lithography and for relief and intaglio printing plates where the printing image must be wrong reading.

13—Negative-positive POSITIVE:

A right reading photographic halftone image on film or glass in which the image is negative to the original copy *i.e.*, an image reversal. Black in the original is clear transparency in the positive, etc. A positive of this kind is required in the production of direct printing plates where a wrong reading printing image is essential.

14—Positive-negative NEGATIVE:

A right reading photographic halftone image on film or glass in which the silver image is an exact or approximate duplication of the original art or copy. Black in the original is black in the negative, etc. Negatives of this kind are required in the production of wrong reading plates for direct printing. The printing image will be the exact opposite of the original art copy. An image reversal.

15—PROJECTION NEGATIVE:

A wrong reading, black and white or color separation, halftone image, (fine line halftone screen, *i.e.*, 300 lines per inch), which is composed of transparent areas and dots of varying sizes and shapes surrounded by black opaque areas and dots of different sizes and shapes.

Used like a lantern slide, the transparent image of the negative is projected upon a light sensitized plate by means of a high intensity arc light projecting machine. These albumen processed printing plates are used in direct and offset lithographic printing.

16—CONTACT MASK (Continuous Tone):

A color correction photographic image on film and/or glass, obtained by contact printing an unexposed plate or film, emulsion to emulsion, through a negative or negatives of one or more color separations. The mask image is generally weak and ghostlike. Contact masks, singly or in combination are used to correct, modify, reduce or eliminate certain color recordings appearing in the color separation positive or negative to be corrected.

Correction contact masks are positioned, emulsion to emulsion, in close contact and register with the positive or negative to be altered, preparatory to the production of halftone negatives or positives to be used in platemaking. The masked assembly is used as transparency copy for camera production of corrected halftone color process negatives.

This masking procedure may also be used in the correction of halftone negatives or positives when required.

17—BURN OUT MASKS (also BLANKING MASKS):

Color Correction – Generally produced on film, these masks are obtained by contact printing, (emulsion to emulsion), an unexposed film by single or multi print exposures to one or more negatives or positives providing the greatest amount of detail. The blanking portion of this contact mask is protected by a staging varnish, including all register and dimensional marks. The unwanted areas are then cleared away by chemical reduction.

After the film has been cleared, the staging varnish is removed. When perfectly cleaned and dried, the remaining image is opaqued and rendered lightproof.

Masks of this kind are used for double-printing uniform halftone tint where none appears in the original copy but is desired; or in the production of deep etch plates for offset, such a mask is used to protect already exposed printing images while light hardening the plate coating in the unwanted areas of the printing plate. These masks are also adaptable to photo engraved relief and gravure printing plates.

18—HALFTONE CONTACT CORRECTION MASK

for Black and White and Color:

A halftone photographic image on film or glass obtained by contact printing, emulsion to emulsion, an unexposed film or glass plate with a halftone negative of one color separation, for use in modifying, lightening or flattening the extreme contrast in a halftone negative representing another or different color.

It is important that the screen of the contact mask be crossed at the correct angle with the angle of the screen in the negative being corrected. If this is not done properly, a troublesome moire pattern will result in the final printed impression.

Color Identification Marks

Color identification marks as illustrated at lower right are those for identification of four colors; Yellow, Red, Blue and Black, as I, II, III and IIII, or 0, 00, 000, and 0000.

Every additional color *i.e.*, Green, Brown or other is identified by the addition of another mark or punched hole.

Whenever two similar colors appear in the same reproduction, *i.e.*, Pink and Red, Light Blue and Dark Blue or a Black and Gray, the scratch marks are preceded by an X, *e.g.*, Red (II) and Pink (XII). Punch marks for the same colors would be for the Red, (○○) and for the Pink $\begin{pmatrix}\bigcirc\bigcirc\\ \bigcirc\end{pmatrix}$ or (○ ○○).

Fig. 1.—*In center are three AP wire Reperforators mounted on a specially designed Tape Receptacle Tables in what is called the wire room at South Bend (Ind.)* Tribune. *Two of the three Reperforators produce duplicate tape from straight news wire. One of the Reperforators is used for AP sport wire only transmitted in regular 8 pt. and 5½ pt. box scores daily, plus agate baseball batting averages which are used only on Saturday for the Sunday paper. The encased machines mounted along the side walls are regular AP and UP Teletype machines which receive and type news daily.*

High Speed TTS Production at South Bend (Ind.) *Tribune*

Tape perforators average 2800 lines per shift; machines operate at 12 lines per min.

ONE of the most interesting production operations in the country is that in the plant of the South Bend (Ind.) *Tribune*. This is related to automatic receipt of daily news matter in tape form Press which is sent in by Associated Press, the punching of Teletypesetter tape locally and high speed linecasting machine operation from Teletypesetter tape at 12 lines per min. This volume production has been developed through the cooperation of management and production executives at the *Tribune* but in particular with the patient supervision of Mechanical Supt. George Kunz and the bulldog persistence and ingenuity of Chief Machinist George Bolton.

In *Printing Equipment Engineer's* recent interview with George Kunz it was explained that the *Tribune* is not a large newspaper as such but consists of the following average pages per day:

Sunday	124
Monday	32
Tuesday	32
Wednesday	46
Thursday	56
Friday	56
Saturday	18

Fig. 2.—*View in one side of the Teletypesetter Perforator Room at South Bend (Ind.)* Tribune. *Here is punched tape for local news, editorial and feature matter. The room is provided with necessary electrical outlets to enable installation of up to eight Perforators (there are now five). The room is surprisingly quiet due to the sound-deadening open front cabinets built about each machine.*

Operators Average 2800 Lines

The work day at the *Tribune* consists of 7¾ hr. During this period several of the perforator operators are producing between 2600 and 3000 lines. All of the perforator operators are former manual linecasting machine operators and floor men. With the cooperation of the *Tribune* a special perforator keyboard training program was made available to the men. At the time the TTS operation was installed the men set manually around 1200 to 1700 lines per day.

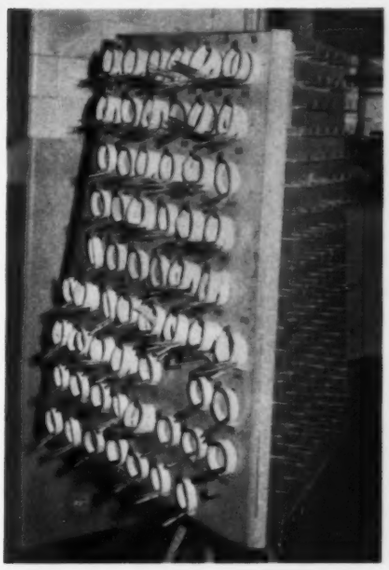


Fig. 3.—*This is the triangular TTS Tape Storage Rack. It is pivoted on a floor tripod and may be turned easily. The rack is 6½ ft. high. The storage surface flares at the bottom to 30 in. wide and gradually tapers to 22 in. at the top. There are 104 tape hooks on each side. One side of the rack is used for future UP or INS tape takes; another side of the rack for AP wire news matter, while the third side is used for AP sports takes. The take rack is positioned near the copy cutter's desk which enables him to separate the tape into takes as it comes from the editorial department. Each tape take is given a number symbol which corresponds to the number on the typewritten copy for identification purposes.*

Mechanical Supt. George P. Kunz and George Bolton, Chief Machinist, standing by one of the TTS operated Intertype machines at the South Bend (Ind.) Tribune.

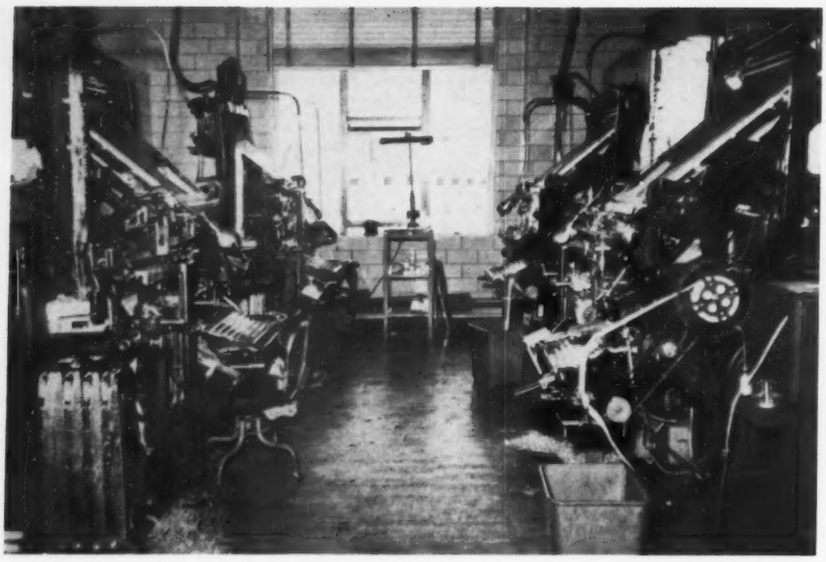


Fig. 4.—*Shown here are four TTS equpped Intertype machines synchronized with four perforator operators through transmitter distributor to reperforators at the linecasting machines. One of the reperforator units may be seen at right. The reel on the intermediate shaft winds the tape automatically as it is released by the keyboard operating uniit. In the* Tribune *plant there are two other TTS equipped Intertypes (not shown). These two machines take care of all wire tape not punched at the* Tribune. *The two extra machines are also used as spares in case operating troubles occur in the four regular machines.*

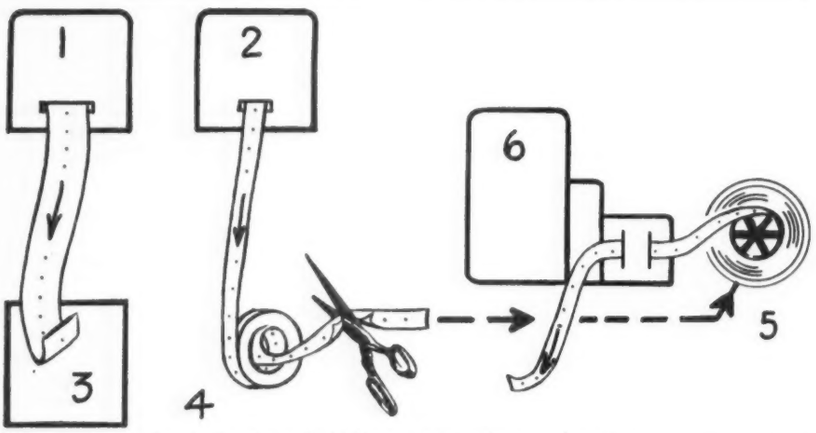


Fig. 5.—*At the South Bend (Ind.)* Tribune, *AP early morning (1 a.m. to 7 a.m.) national and state news is received. The equipment is turned on by electric clock. No one is around to operate the equipment. The news is received in the* Tribune's *wire room from remote sending station in two forms: (1) On the monitor printer* 1 *which typewrites the justified lines in regular readable form. This copy is sent to the telegraph editor at* 3. *Identical news matter in punched tape form is furnished by the AP reperforator* 2 *also in the wire room.*

A newsroom copyboy who comes to work at 6 o'clock a.m. rolls the punched tape into reels, splices the tape and gives the reels of punched tape to the linecasting machines operator who places the reels on the linecasting machine Teletypesetter keyboard operatling unit 5 *and* 6, *and casts type (slugs) from the tape. This early morning wire tape runs from four to six columns of type; this type is held temporarily in the composing room without being proofed. Approx. 90% to 95% of the early wire copy is used in the* Tribune *daily.*

The printed copy received from the monitor printer 1 *is edited by the telegraph editor when he comes to work. He selects and edits the stories he wishes to use and sends the edited copy to the copy cutter in the composing room; in turn, the copy cutter directs the dump boy to associate copy and type together. If there are changes in the copy and heads are to be set, the dump boy sends the head copy to a manually operated machine on which the heads are set and also corrections are made in the type matter before it is proofed.*

While the high speed automatic operation is in progress, machine monitors tend the machines. They keep the machines supplied with tape, remove the type matter, hang pigs on the feeder hooks, straighten out assembler squabbles, and correct distributor stops. Maintenance and repair work is done by the regular machinists under Mr. Bolton's supervision.

All Has Not Been Serene

It was explained that all was not serene on the production front especially during the initial period of high speed operation. There have been occasional rough spots to smooth out and still others present themselves as high speed operation continues. However, Messrs. Kunz and Bolton expressed themselves optimistically with respect to overcoming any future problems that might arise regarding employee shift distribution and trouble-free machine operation. Praise was given to Intertype Corporation in assisting with machine modification.

12 Lines Per Min.

The TTS machines are operated consistently at 12 lines per min. throughout the day except, of course, when it is necessary to change the expired tape or when a distributor stops, or other machine trouble occurs. This 12 line per min. production has been secured for a two-year period.

No Patience with Disclaimers

Kunz said he has no patience with those who claim TTS operation is more expensive than manual operation. Experience with this equipment at the *Tribune* debunks that idea. In fact, said he, only one more machinist has been added. This expense is offset greatly by the increased production obtained.

TTS System Consists of Two Separate Operations

For those who are somewhat confused by reference to tape perforation operations it is explained that there are two separate and distinct operations. The first of these is the tape perforating done automatically when the impulses are received electrically from a distant point. This operation is entirely automatic and does not require the services of an operator or a monitor. This tape can be edited by cutting away sections of the tape and then fastening the cut ends together in a long continuous strip. The tape is cut into takes and is then sent to the TTS operated linecasting machines. It should be stated here that simultaneously with the automatic perforating of the tape from a distant point a typed copy is also received for editing purposes.

The other method consists of tape which is perforated locally by *Tribune* operators, from edited typewritten copy prepared in the news department. Likewise, this tape is wound into rolls suitable for running on the TTS operated linecasting machines.

Another part of the local tape punching operation is arranged so that the tape perforator operator's machine is connected direct with the linecomposing machine. All tape punched by *Tribune* perforators is sent as punched in impulse form by transmitter distributor in the *Tribune* perforator room via a jackbox arrangement to the reperforator alongside the linecasting machine, thereby permitting the setting of spot news copy just as late as it can be done with manual operators. The difference, however, is that much more type is secured in a shorter space of time.

Automatic Wire Service

Mr. Kunz explained that for the Associated Press wire service three reper-

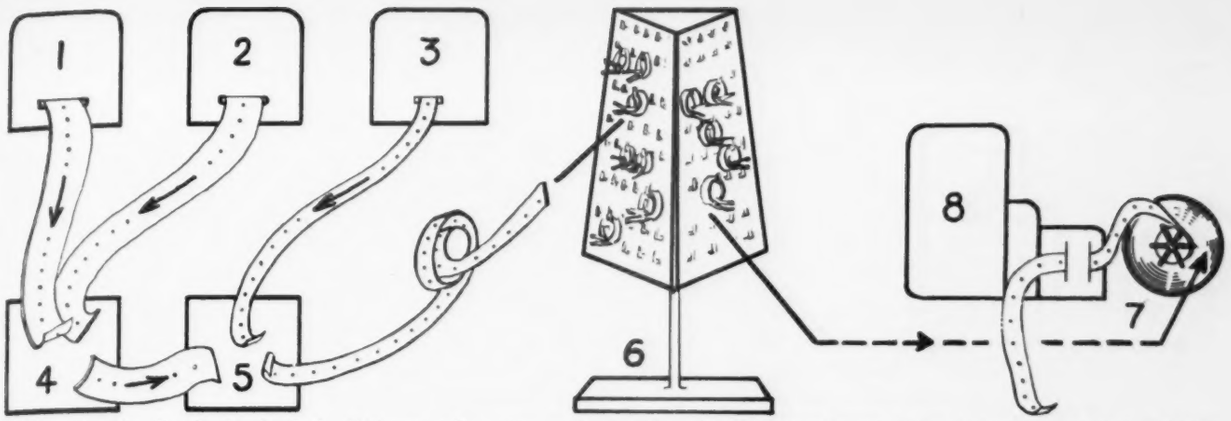


Fig. 6.—*At the South Bend (Ind.)* Tribune, *wire news and sport copy, is transmitted after 7 o'clock a.m. from remote sending stations. This consists of sport wire tape and justified monitor typed copy in 5½ pt. and 8 pt., plus AP telegraph news and state wire tape and copy.*

The general pattern is as follows: At 1 *is indicated the AP telegraph monitor printer which produces justified type copy; this copy is sent to the telegraph editor at* 4. *Also received independently is sport, 5½ pt. and 8 pt. copy through monitor printer* 2; *this typed copy in justified line form is sent to the sports editor* 4. *While the two monitors are producing typed and justified line copy for the telegraph and sports editor, the AP reperforator* 3 *simultaneously punches Teletypesetter tape in justified line form.*

After receiving the news and sport monitor copy, the telegraph and sports editors edit the copy and send to the copy cutter at 5. *The copy cutter, so far as possible, follow the editors' marks as indicated on the monitored copy and cuts the tape from reperforator* 3 *into takes or take-reels which are then hung on numbered hooks on tripod* 6 *in the composing room. The linecomposing machine runner at intervals removes the take-reels one at a time from tripod* 6 *and mounts them on feed reel* 7 *and threads each reel into the keyboard operating unit* 8 *of the linecasting machine.*

forators are used. At 1 o'clock in the morning an electric clock turns on the machines, two of which are AP (regular national and state news). These three machines operate without an attendant. Usually this service is terminated at 3:15 o'clock a.m. Each machine perforates the tape in duplicate so that if anything happens to one of the machines the other will continue.

The sports matter is received commencing at 3 o'clock in the afternoon and continues to be received until 5 o'clock the following morning. Each day this material consists of all kinds of current sports stories set in 8 pt. and also agate baseball box scores and summaries. The agate weekly batting average tape is received each Saturday morning and cast into type to run in the Sunday *Tribune*.

The sports matter is received on the third machine in regular 5½ pt. and 8 pt. body type with half-measure agate box scores. The baseball batting averages received in 5½ pt. on Saturday are used in the Sunday paper.

At the present time it is estimated that 65% of the wire and local news tape is being set and cast on the TTS operated linecasting machines. About 90% of the *Tribune's* agate classified and the legal advertisements are also perforated in tape form and cast by automatic linecasting method.

From 105 to 125 columns, part manual and part TTS machine, type matter is produced on both the day and night shifts each working day.

Eliminating Idle Time

A number of problems incidental to high speed typesetting operation have arisen since the TTS system has been in use during the past two years. To assist in solving them, it is a part of the composing room operation that records are kept through the medium of time cards for all operations. The cards are divided into 6 min. units. Thus when difficulty with production arises, the situation is surveyed and an analysis is made. Since edition time and high speed TTS machine operations are two rather arbitrary elements in the *Tribune's* operation, management, news room and production departments have learned to work closely together.

Naturally there is some idle day shift tape perforating time. This idle time ranging from 12 min. to 20 min. per machine at intervals caused some overtime expense for a while. Operator overtime and machine down-time are both being eliminated gradually through experience. This is eliminated by giving the perforator operators feature material which comes in the category of time copy. Formerly, the night operators set most of the feature material. The night operators' gained time was transferred to the night ad machines. In this way the editorial and feature material is piled up for the day tape perforators to be used as time copy.

He explained that from 10 to 11:30 o'clock in the morning it is necessary for the composing room to "barrel" in order to get editions out on time. As in many other plants, somebody occasionally

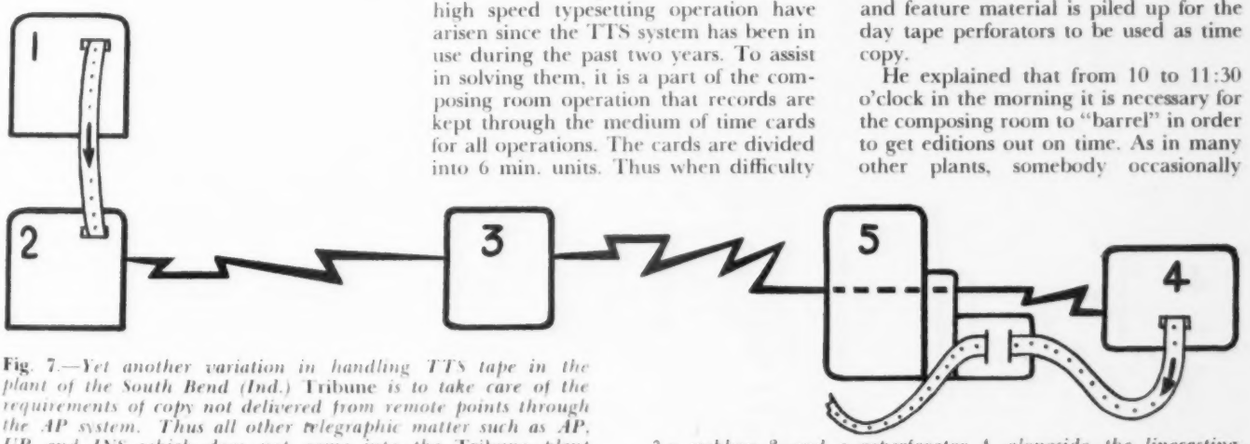


Fig. 7.—*Yet another variation in handling TTS tape in the plant of the South Bend (Ind.)* Tribune *is to take care of the requirements of copy not delivered from remote points through the AP system. Thus all other telegraphic matter such as AP, UP and INS which does not come into the* Tribune *plant in justified line monitor copy form, is punched in the* Tribune's *own perforator room along with local, classified, correspondence and feature matter.*

Now, the routine followed in the case of straight type wire copy or typed local copy, is as follows:

In most instances this hookup is utilized by means of which the perforator operator at 1 *through a transmitter distributor* 2 *a jackbox* 3 *and a reperforator* 4, *alongside the linecasting machine actuates the TTS keyboard operating unit* 5 *through the direct connection.*

When future typed copy is received by the operator at one of the perforators 1 *in the perforator room, he punches tape in justified line form as time permits; this tape is then reeled and if the story is of sufficient length, the tape is cut up into reel takes and is sent to the tripod* 6 *in the composing room.*

oversteps the arbitrary deadlines. But with patience and perseverance the overstepping problem has been overcome to a great extent.

Following the same principle as employed in manual operation, the wire tape and monitored copy carry the same number. For instance if the monitored copy carries the number 22, the composing room copy desk gives the tape the same No. 22. If, at the end of the day, this tape is not used, it is thrown away.

Editing the News Copy

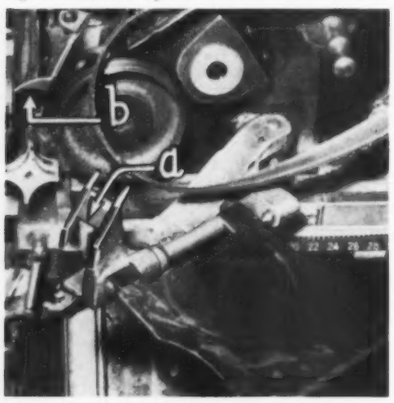
Another detail of interest to those not familiar with TTS operation is that the telegraph editor marks out on the monitor (typed) copy such sentences or paragraphs as he doesn't wish to use. The machine monitor watches the copy as the corresponding tape is being set and jumps the tape over the marked-out parts of the copy, thereby not casting the unwanted lines. In other cases, where words are deleted by the editor, the proofreader catches the deletion in the proof.

At certain times of the day, the tape coming from the news reperforators is connected direct to the keyboard operating unit.

Life Cycle of Piece of Copy

The production cycle of a local news story is as follows: The copy is edited by the city editor; it then is sent to the copy cutter in the composing room; the copy cutter isolates the head copy from the story but identifies it with a number or guide line which is the same as the number or guide line given the body of the story; the copy then goes to the tape perforating room and from there is sent

Fig. 8.—*At the South Bend (Ind.)* Tribune, *Head Machinist George Bolton modified the design of some of the assembler parts. The reason for doing this is that accelerated and automatic operation of the machine causes abnormal behavior of matrices and spacebands with parts designed for manual operation. Modification of the design provides several corrective actions: (1) Matrices are more nearly directed* between *the spokes of the four pronged Nylon assembler star wheel; (2) The star wheel pushes the last matrix into the assembling elevator so there will be approx. 1/8 in. space between matrix and revolving star wheel, and (3) The 1/8 in. space between last matrix and star wheel facilitates the straight down drop of the spaceband into the assembling elevator. (As will be seen by looking at Fig. 10, Bolton ground off the lower 3/4 in. from the left side of the spaceband long wedges to reduce the thickness and to make both left and right surfaces parallel to each other.*



This does not interfere with justification expansibility of the spaceband itself).

While no detailed description of the accomplishment of the changes in machine parts design is furnished here, Bolton redesigned the assembler chute block deflecting plate a, *so that it is thicker at the lower end to keep the matrix away from the star wheel until the matrix is tumbling in downward motion between the spokes of the star wheel. A further refinement was incorporated by cutting an arc of a circle in the lower edge of the assembler chute finger at* b *to permit clearance of the top edge of the matrix as it is swung to vertical position by the star wheel. The effect of the modifications in machine parts as described above is that the matrix is guided ahead of the spaceband at all times as both settle in the assembling elevator. Bolton reports that the jumping out of matrices or spacebands from the assembler is a rarity.*

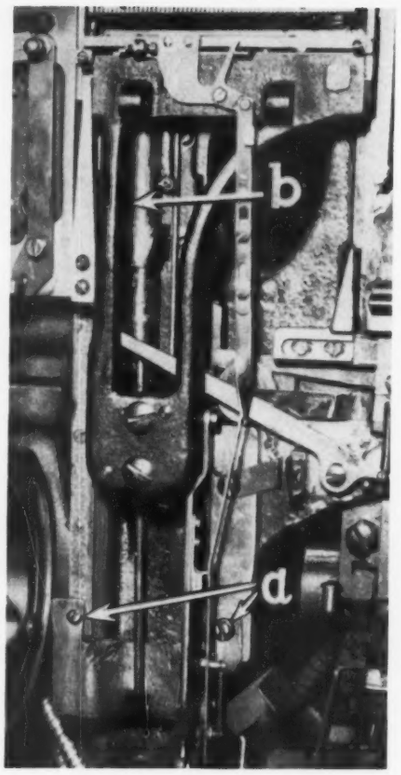
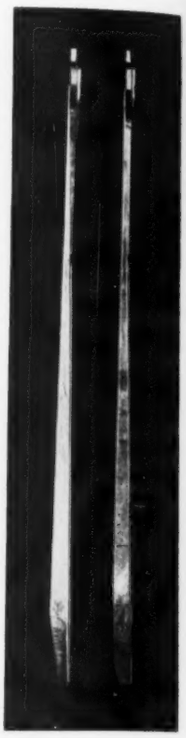


Fig. 9.—*At the South Bend (Ind.)* Tribune, *on the TTS operated Intertypes, the increased operating speed made the seating of the assembling elevator at normal position after the elevator has raised a matrix line to the delivery slide rather abrupt—that is, the metallic shock occurring when the elevator was seated at normal position was severe enough so that occasionally breakage of the elevator casting took place. On the TTS operated machines, the assembling elevator is raised to the delivery slide and seated at normal assembling position 3000 times per day or more than 21,000 times a week. This constant seating of the elevator at normal position caused wear on the seating surfaces as well as occasional breakage of the parts. Instead of a single seating surface, a steel saddle was fashioned for attachment to the lower end of the elevator slide with seating surfaces at each side of the elevator guide rails so that instead of one seating surface, two are provided. The saddle is fastened to the lower ends of the guide rails with regular screws (8.32 and 1/4-24. The general design of the saddle is shown at* a *in this Fig. 9. To eliminate the metallic shock occurring when the elevator drops by gravity and is seated at normal assembling position, George Bolton designed an air cushion cylinder and plunger so that the elevator is seated softly but firmly without bounce. The device consists of a stationary plunger and a 5 in. length of 1/9 in. diam. brass tubing. The plunger is stationary and is fastened at its lower end by screwing it into the saddle.*

The stroke of the assembling elevator from normal to delivery position is approx. 4 1/4 in. Thus, the 1/9 in. diam. brass tubing from which the cylinder was constructed is 5 in. long. The cylinder is fitted into the back plate of the assembling elevator by means of a wide band and holding screws on the band wings. It rises and falls with the assembling elevator. The top end of the cylinder tube, of course, is capped. An adjustable vent screw (4-48) approx. 1 1/9 in. from the top of the cylinder cap provides for adjustment of the air cushion to permit firm but gentle seating of the elevator in normal position.

Fig. 10.—*On TTS operated linecasting machines it is essential that spacebands with greater expansibility than is afforded by regular spacebands be provided. Result is that the lower end of the long edge is considered to be somewhat "clubby" because of the increased taper which results in a thicker lower end. This increased thickness does not make for smoothest operation in automatic typesetting. The thick wedges tend to advance the assembler slide too far to the left particularly if they settle at a slight angle when dropping into the assembling elevator. At left is shown a normal TTS spaceband. At right is the modified spaceband. In conjunction with a modified assembler chute block (see Fig. 8,) Bolton ground off part of the spaceband long wedge (right) to reduce the thickness for a distance of approx. 3/4 in. from the bottom of the spaceband reducing the thickness approx. 1/64 in. The left surface of the spaceband is parallel to the right surface, the only difference in securing the narrower thickness being that the two sides of the spaceband are parallel instead of the left side being at an angle to the right side of the spaceband.*



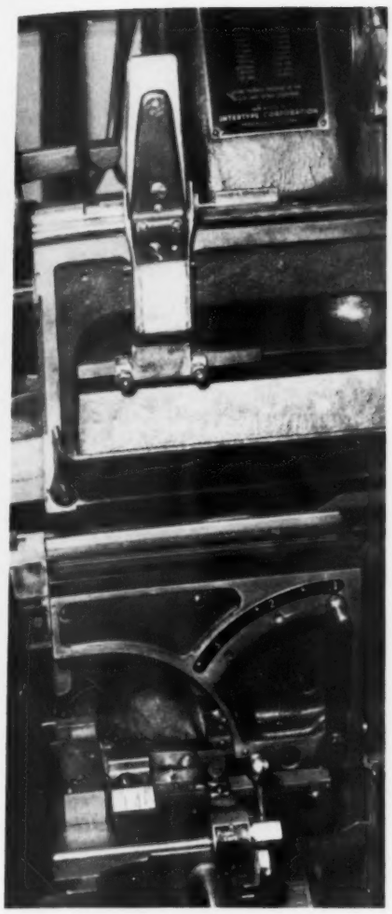


Fig. 11.—*In addition to being expansible, Teletypesetter spacebands, if permitted swing like a pendulum when transferred from the first to the second elevator in the transfer channel. Because of the weight due to thickness of the long wedge at the lower end also because the spacebands are transferred with a possible 40% faster movement to the transfer channel, the swinging of the spacebands on TTS operated machines running at 12 lines per min. was a problem for Chief Machinist George Bolton of the South Bend (Ind.)* Tribune. *Bolton devised a spaceband brake or retarder to stop the lower end of the spaceband long wedges swinging due to momentum. In the case of the machines operating at 12 lines per min. the usual flexible spring cushion strip plus raising of the lower rail did not function efficiently to stop the swing motion. Bolton overcame this abnormal action by pivoting a straddle arm or yoke on the second elevator transfer bar plate guide. The pivot screws are located at left and right hand sides of the guide bracket. Fastened to the lower end of the yoke by means of two spring cushioned screws is the 5 in. wide by 1/4 in. braking element or bar. The bar is lined with leather at the inner surface where it comes into contact with the spaceband long wedges. Interposed between the braking bar and the yoke are two small screw mounted steel springs to provide spring pressure against the spaceband wedges. The screws are adjustable for spring pressure against the spacebands. Now, when the second elevator seats upon the top of the transfer channel, the bar plate contacts the two top rounded edges of the yoke to cause inward movement of the brake against the spacebands. The braking device in no way interferes with making normal adjustment of the second elevator bar for smooth transfer of the matrices from the first elevator. It might be pointed out also, that the swinging of the spacebands on TTS operated machines (due to accelerated operation) aggravates the wear occurring in the front and back rails of the transfer channel which support the spacebands by their sleeve lugs during movement from the first elevator into the spaceband box. On an 11.6 pica machine, the wear in the rails caused by the swinging of the spacebands and the movement of the sleeve lugs produces a deply worn groove. Bolton first devised the brake to stop the swinging during transfer and has planned to inset a hardened 1/16 in. thick steel replaceable plate about 1 in. wide at the point where the sleeve lugs chew out the rail tops.*

to the TTS machine. Both the type (if divided into takes) and the head are assembled at the dump. The takes go through a regular standardized cycle, each of which requires approx. 10 min. for casting.

Under competent maintenance supervision of George Bolton, two machines are rarely if ever down at the same time. This has alleviated a condition which, Kunz explained, "caused a considerable number of headaches."

No Situation Layoffs

Up to the present time, Kunz continued, there have been no situation layoffs attributable directly to Teletypesetter operation. Some of the situations were absorbed in manning high speed operation. Different work has been found for those who were displaced as manual operators. Ability to absorb displaced personnel is a source of great satisfaction to the *Tribune* management.

"We Know Where We're Going"

Kunz remarked that composing room floor space with respect to installing additional machines is at a premium. He said: "We would rather increase production on the machines we now operate than to add more machine units. We are not out of the woods yet—but we know where we're going."

Hans E. Rosberg has joined the Sales Div. of Mergenthaler Linotype Co., according to a recent announcement. He has been Mechanical Superintendent of the Norristown (Pa.) *Times-Herald* since 1946. Prior to World War II, he was composing room foreman for weekly and daily newspapers in New York and Pennsylvania.

More PIA Trainees—The 12 Los Angeles printing supervisors who recently took advanced study courses covering foreman's-management training under auspices of Printing Industries Assoc., brings to more than 175 supervisors and foremen who have participated in this training since the program's inception in July, 1952, according to PIA General Mgr. Henry Henneberg.

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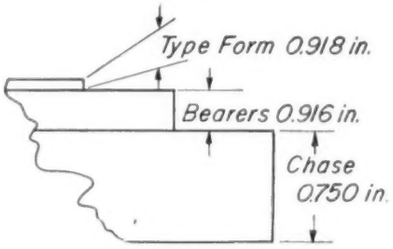
Preciseness—If Not Precision

OVER a long period of years, the stereotype process has been the bad boy of the newspaper printing industry. Ever since the introduction of the dry mat the process has flexed its muscles with respect to dimensions both in the molded mat and the plate cast from it. The responsibility, of course, rests with the publisher. The save-newsprint through mat shrinkage idea has cost the industry untold sums of money, even though progressively increased shrinkage also has been employed as a means for offsetting increased newsprint costs. Thus, from time to time, the publisher has insisted on greater mat shrinkage (originally ¼ in.—now up to as much as 1¼ in. cross pagewise) to cope with the economics of the newsprint situation. Meanwhile, skilled but gallant stereotype executives have fought the abnormal antics caused by greater and greater moisture content in the mat. It would not have been too bad if the shrinkage adopted at a particular time were regarded as *status quo*, because eventually the stereotyper conquered most of his process difficulties for a given shrinkage. In such instances, too, he became at peace with the composing room because the composing room provided him with type elements that would resist the stereotyper's mat molding pressures and also learned how to allow for mat shrinkage in the original ad composition so the ad would be reduced to specifications column-wise and for depth. In cooperation with the stereotyper, the pressroom executive also printed a better looking paper.

Meanwhile equipment makers provided stereotyper and pressman better tools with which to work. We can mention sturdier mat rollers and direct pressure presses, scorchers and formers, improved plate casting and finishing machines and printing presses among the major items More recently the infiltration of r.o.p. color printing into the industry has been gradually accelerated. Equipment designed to help the stereotyper control misbehaving color mats for register also has been provided.

The stereotyper did not alone bear the burden of printing which was deemed unsatisfactory when compared to the platemakers' proofs. Advertising agencies and their clients grumbled because of poor reproduction of originally excellent material in the newspaper. Agency men also complained of the lack of standards in reproduction particularly regarding bastard shrunk measurements of the printed page. That word is used advisedly because the platewise requirements published by papers are of many dimensions. Newspaper people just don't seem to agree to any greater extent regarding the subject of standardization than do executives in other industries upon a given subject.

The publisher knew full well that his headaches were caused by his economic pursuit of ways and means for offsetting the increased cost of newsprint problem. With bulldog persistence he stayed with the greater mat shrinkage idea. The technical control problem at times seemed

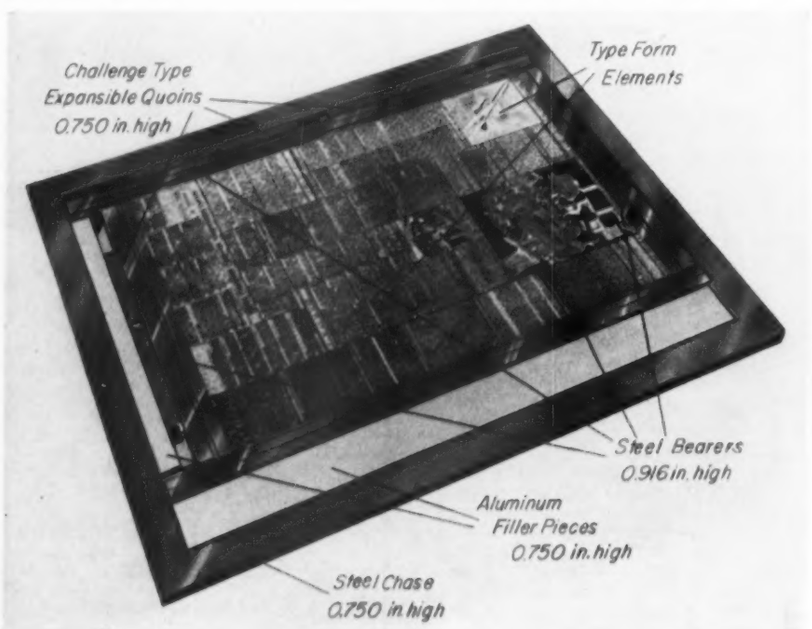


insurmountable. Agency executives met with mechanical executives to try to work out solutions. Stereotype executives conversed earnestly one with another in order to be of mutual assistance.

Perhaps it might now be in order to write that while many problems attendant upon stereotype production have been conquered, there is yet need for further improvement in the matter of preciseness if not precision.

In case you're not too familiar with the newspaper printing industry you will have gathered that here exists a paradoxical situation—on the one hand, the industry is conscious of the necessity for preciseness if not precision in its manufacturing methods, yet at the same time it is frustrating the achievement of precise fabrication in newspaper making by periodically increasing stereotype mat shrinkage.

Anyhow, there are indications that stereotyping will be brought further under fabrication control because thoughtful minds have been at work to circumvent the effects of increased mat shrinkage and the arbitrary speed with which newspaper editions must be published. Recent developments from ANPA Research Laboratories such as high speed magnesium etching, the Mat-Pack packless stereotype mat and a number of control instruments will have a broad effect upon the industry. Run-of-paper color, too, is receiving a great deal of attention. Without suitable processing equipment and improved techniques newspaper color might just as well be thrown out the window. A number of stereotype equipment makers, including the press manufacturers, have bent an earnest ear to the potential demand for color which has been sparked by the stout hearted Milwaukee *Journal*, the Chicago *Tribune* and a number of other pioneers around the country. At the moment, technological developments make the situation look encouraging.



Hi-Lo Stereotype Chase

In addition to equipment and process developments already completed by manufacturers for more precise control of the vagaries of newspaper stereotype mat shrinkage, a number of developmental engineers also have been working on ideas for further control. One of these is Ches Carlson of the Chesley F. Carlson Co. This takes the form of what he calls the Carlson Hi-Lo stereotype chase.

In the newspaper printing industry, the type form is the connecting link between the stereotyper and the composing room. Just as prevails in commercial and platemaking plants, the stereotyper is entitled to an accurately locked up form from which to make his mold. The Hi-Lo Chase, reports Carlson, is designed to supply the stereotyper with chase elements which will enable him to control dimensions of the mold in the mat. The chase is of modular design. Carlson says: "Modular design permits simply putting together pre-determined blocks or dimensions to fit perfectly when assembled."

As will be seen by referring to the accompanying illustration, the bar stock of the steel chase itself is 1.500 in. wide all four sides. Inside dimensions are as follows: Width, 20.970 in.; inside dimension lengths are: 26.500 in. for forms up to 22 7/8 in.; 25.500 in. for forms up to 21 7/8 in., and 24.500 in. for forms up to 20 7/8 in. length.

The chase components are designed to provide useful maximum molding pressure directly upon the type elements with nearly equal width bearers taking the direct pressure of the molding machine itself. Thus, the type matter would be 0.918 in. high, the steel bearers are 0.916 in. high, and the chase, quoins and aluminum filler bars are 0.750 in. high. It will be seen that there is a difference of 0.002 in. in the type form

and bearer heights. The chase, quoins, and filler bars do not enter into the molding operation in any way except to maintain page size square lockup dimension, these elements being 0.168 in. lower than type high.

The locking elements consist of three Hi-Speed Challenge type quoins—one at the bottom of the page and two at one side of the page form. Expansibility of the quoins is 0.166 in. or approx. 1 pica. The quoins are locked and unlocked from the top with a vertically positioned T wrench. In this way, the justification and locking of forms to exact dimension is facilitated just as is done in commercial printing and publishing plants. Page dimension is critical in shrinkage, fitting mats into the casting box and in press plate alignment.

Recently, many newspapers have changed page dimensions to either permit reduction of newsprint roll widths or as a number have done, to permit changing from an 8 col. page to a 9 col. page. If the page width is to be changed from 12 picas to 11.6 picas, the head and foot bars are cut off and an aluminum side filler is placed in the form. If a newspaper is to be changed from 8 to 9 col., the head and foot bearer bars are replaced and the aluminum filler is taken out.

Sponsor also mentions that the precision controlled lockup by points permits excellent color mat reproduction. The high level bearer bars are said to be interchangeable from side to side and from head to foot.

The Moisture Sensitivity of Paper

By WILLIAM H. BUREAU*

**Butler Paper Corporations, Chicago.*

WHY IS paper moisture sensitive? Why are some papers less reactive to moisture than others? Why aren't papers made that are inert to moisture changes? These are rather simple questions, but yet very important ones to all who use paper.

Water and Paper Fibers

Water and paper are inseparable from the earliest stages of papermaking. All cellulose fibers have an affinity for water, swell when placed in water and shrink when they lose water. This relationship of water and cellulose is fundamental to papermaking. If it were not the case, it would be impossible to manufacture various types of paper and paper with strength beyond that of blotting would not exist.

The actual tensile strength of individual paper fibers almost equals that of a steel fiber having the same diameter. This may seem startling in view of the fact no paper closely approaches the strength of a piece of sheet steel of the same thickness. Why is this so? Paper derives its strength not so much from that of the individual fibers as it does from the actual bonding together of the individual fibers. Ordinary paper after being wetted loses most of its strength, yet the individual fibers within the sheet are as strong when wet as when dry. What accounts for the loss of paper strength? As mentioned above, the strength of an interwoven fibrous structure is attained by the inter-fiber bonding. Wetting paper dissolves the fiber bonding much in the same manner as the immersion in water of two glued pieces of wood would cause them to separate easily.

Varying Degree of Fiber Bonding in Papers

Fibers must undergo proper treatment; that is, beating, jordaning and refining, to produce a paper having the desired physical properties. The swelling, bruising, fibrillation etc. of the fibers in their preparation causes them to cement to each other during their journey over the paper machine and is called fiber bonding. The strength of this fiber bonding can vary considerably, depending upon the degree of fiber treatment. Some papers, such as blotting and towelling, must have the very minimum treatment in order to obtain the soft, absorbent characteristics needed. They have out of necessity a low inter-fiber bonding strength. By contrast, Bond and Ledger papers must have high inter-fiber bonding strength in order to possess their characteristic hardness, snap and resistance to erasure and repeated handling. Papers that are to be completely oil or grease resistant are made from fibers that undergo severe fiber treatment and hydration so that the latter interweave and cement into a very dense structure, leaving practically no air space between individual fibers.

It is obvious that the reaction of cellulose fibers to water is fundamental in papermaking. It is only reasonable to expect that the relationship of fibers and water continues to exist as a similar relationship between fibers and water vapor or moisture in the air. This brings us to considerations of dimensional change as related to moisture content. If you can visualize a fine lattice structure of wooden toothpicks, you know that each toothpick, upon absorbing moisture, would swell as all wood does. Each toothpick would be permitted to swell without influencing its neighbor and the dimensional change of all the toothpicks would be absorbed within the internal lattice structure. Now, visualize that this identical structure were to have toothpicks glued to each other. Upon moisture absorption, the individual freedom of movement would no longer exist and a change in dimension of each toothpick would then be transferred into an overall change of the entire structure. This analogy applies to a sheet of paper. Thus, a sheet of paper made from fibers very loosely bonded together has within itself a greater degree of freedom for absorbing individual fiber shrinkage or expansion and, consequently, displays less external dimensional change. Further, a paper made from the same fibers, but more tightly bonded together because of different fiber preparation, will react with greater dimensional change for the same change in moisture content. This brings us to the statement that papers differ in their reactivity to a given moisture change, not so much because of the type of fibers from which they are made, but rather because of the degree of fiber treatment in papermaking. It is true that groundwood papers show less contraction or expansion than those made from all chemical pulp. However, the difference in this respect of papers is due in much greater part to reasons discussed.

The hard, permanent papers such as Bond and Ledger can be expected to change more in dimension than an Offset Paper. The latter is purposely made so as to have minimum dimensional change and still sufficiently bonded together so that it will resist picking and splitting apart due to the pull of the inked rubber blanket on its surface.

Effect of Non-Fibrous Components

The effect of fillers, such as clay, in paper is to impart greater dimensional stability since they themselves are inert to moisture changes. Hence, a given paper with filler will be less reactive to moisture change than the identical paper without filler. However, there are limits to the amount of filler that can be used due, for example, to loss of strength. The use of certain plasticizers will reduce the expansivity of paper, but again, their

use is limited or undesirable for other reasons. The addition of wet strength resins and other synthetic products to paper has been found to impart much greater dimensional stability, but these have not proved practical either because of prohibitive cost or other undesirable characteristics resulting from their use.

Other Considerations

The reaction of paper to moisture can become rather complex when thoroughly analyzed. In addition to considerations mentioned above, there are those involved in the drying of paper on the paper machine. Wet paper as it dries, naturally shrinks. The tension on the paper web travelling through the machine tends to resist this shrinkage. This results in strains which in part give the paper its grain, as well as the property of showing greater expansion or contraction across the grain after it is made. For this reason, mainly, all papers do not show the same ratio of *cross grain* to *with grain* expansion. Papers such as Greaseproof, for example, have been found to show almost six times as much expansion across grain as with the grain. Others such as plain Machine Finish Book may show only two times as much expansion across the grain as with grain.

Not only do papers show greater or lesser degree of dimensional change for given change in moisture content, but also they vary in the rate at which they change. Porous papers such as Newsprint and M. F. Book will acclimate themselves quickly to a new atmospheric condition. Hardsized, heavier weight and dense papers such as Tag and Board will require considerably longer to acclimate. This must be considered in the actual "seasoning" of paper because insufficient time will result in incomplete acclimation, whereas excessive time can place undue burden on the equipment.

Summary

All papers are sensitive to moisture to a greater or lesser degree. The extent of moisture sensitivity must often be balanced against other needed characteristics in the paper by the papermaker. Manifestations of dimensional change due to moisture are curl, wavy edges, bulgy centers and puckers or cockles. A greater understanding and appreciation of this characteristic of paper can possibly be of help in the storing, seasoning and minimizing of press difficulties such as wrinkling, misregister and "doubles." Change of dimensions has more serious consequences with the printing of paper in larger sheet sizes.

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Paper and Color Printing

By W. A. KIRKPATRICK*

**Vice Pres. and Technical Director, Allied Paper Mills, Kalamazoo, Mich. Abstract of address delivered before meeting of Research and Engineering Council, Kalamazoo, Mich., May 1954.*

THE remarkable developments in color photography and reproduction by the Graphic Arts of multicolored subjects during the past twenty years has brought about a virtual revolution in the field of printing and publishing. During the past two decades, color reproduction by gravure, letterpress, and offset has doubled in volume several times. This is due to many factors, some technical, some psychological and some with a political-economic background.

The growth and tremendous technical strides made in the wet process of multicolor reproduction has brought about some significant changes in paper qualities. It is well known that inks used in these processes must be of controlled viscosity, tack, and drying qualities. Of particular interest to the papermaker is the tackiness of the first ink down. This is far greater than that of inks used in one-color work and demands a paper surface considerably stronger than would be necessary on one-color work. On letterpress, this means an increase in surface pick test from a Dennison wax test of No. 3 to No. 5 or in some cases of heavy solids, high press speeds, or exceptionally tacky gloss inks to No. 7.

Offset Requirements

On offset presses the requirement, as far as surface strength on coated paper is concerned, would show an increase from No. 6 to No. 8 or No. 9 as we go from a one-color press to a multicolor press and on uncoated papers from a No. 9 to a No. 11 Dennison wax. High speed multicolor offset work also places an additional demand on the internal strength of the paper or board. This type of strength cannot normally be measured by the usual wax test, but other recently developed methods more nearly duplicating the action of the press itself must be resorted to. If the internal fiber-to-fiber bond in a paper or board is too low, a splitting of the sheet on the first color blanket will result, usually toward the back of the sheet and often originating in a slight imperfection in the fiber structure. At times this splitting condition may be overcome by reducing the tack of the inks and/or by slowing the press down. In the paper mill, deficiencies in internal bond must be corrected by changes in type or treatment of fibers, the addition of certain starches, gums or resins to improve the fiber-to-fiber bond, or, on comparatively light weight papers, by adjustment in the type of surface sizing used.

Physical Characteristic Not-Critical

The physical characteristics of the surface of paper and board for multicolor offset printing are not particularly critical. In other words, this process can give good reproduction on an uncoated sheet ranging from a supercalendered finish to an antique and even to heavily embossed surfaces. Coated paper ranging from a mirror-like finish to a truly matte or dull finish and even to an embossed coated surface print beautifully. As a matter of fact, lithographers are only now realizing the amazing possibilities of color printing on matte and embossed coated papers. Some work on these actually has a somewhat three dimensional look and is wonderfully readable with a minimum of eyestrain.

Coated Paper Requirements

Only comparatively seldom is uncoated paper used for multicolor work by letterpress. As a matter of fact the development of low priced machine coated papers has gone hand in hand with the growth of color work on typographical presses, particularly in the publication field. Any coated paper to be suitable for color work must have a smooth surface capable of taking a 110 line or finer screen. The smoothness of the surface is not only a function of the surface contours, but also involved is the internal resiliency of the sheet. In other words, the true smoothness of the sheet as related to its printing quality, must be measured under printing pressures. Some apparently rough surfaced sheets with good internal resiliency will outprint

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sheets with an apparently smoother surface, but which lack resiliency.

It is particularly important that each dot from the color separation plates be reproduced fully and accurately by the paper's surface, otherwise an unattractive mottled reproduction will result. In this connection, the engravings must be suited to the paper, press, and ink under consideration. It is, therefore, advisable that the engraver pull the progressive proofs, for final approval and use by the printer, on paper actually to be used on the job or, if this is not possible, at least on a sheet known to be very similar.

An engraving giving fine results on glossy proof paper with a multiple coated surface will not necessarily give the same results on a commercially used sheet or piece of board. Proofs on the actual paper to be used will indicate to the engraver of the color separation plates the degree of etching necessary for optimum results and in some cases a limit on the fineness of the halftone screen which may be effectively used on the paper purchased for the job.

Color, Brightness, Opacity

Aside from the factors mentioned above, there are only the optical qualities of the paper which have a direct bearing on its suitability for fine color reproduction. Of considerable importance to the final quality of the printed piece are color, brightness, and opacity.

Opacity is not a factor in the heavier weights of paper nor, of course, is it a factor in board or in most cases where one side only is to be printed. On higher grades of paper, opacity may be a matter of prime consideration. In coated papers lighter than 80 lb. and uncoated papers lighter than 60 lb., roughly speaking, opacity must be carefully considered. Opacity may be maintained at a fairly high level by reducing brightness, but, inasmuch as this adversely affects the brilliance and appeal of the printed job, usually opacity is enhanced and brightness maintained by the use of titanium dioxide or some other pigment of good whiteness and high index of refraction.

Color Best on Sheet of Max. Brightness

In other published articles have been adequately discussed and defined the matter of whiteness and brightness. Suffice it to say here that best results from the appearance standpoint will be obtained when color printing is done on papers of maximum brightness. The matter of color or whiteness is another thing and of late we hear much about a fine blue-white sheet, describing a supposedly excellent sheet of paper from the standpoint of color. Actually blue-white, cream-white, and pink-white are all relative, but unfortunately, the cold blue-white sheet has caught many a printer's fancy at least partially, as a result of promotional activities in the field of paper sales. Actually, black and white reproduction is apparently better on a sheet which is not blue-white because contrast with black inks, most of which contain blue toners, is better when this ink is laid on a cream-white or a pink-white surface. In color printing reproduction is more accurate if yellows and transparent reds are laid down on a background lacking in a dominant blue tint. A blue tint can make a yellow appear green and muddy and a red will lose its brilliance in running toward the magenta.

In view of the decided effect the color of the paper or board base can have on the finished job, this is obviously another case where proofs should be pulled on the actual sheet to be used on the job rather than on one which may vary widely from its brightness and shade.

Mills Must Keep Pace

To sum up, mills producing printing base for multicolor work have found it necessary to make certain changes and improvements in their various products to keep pace with the demands of the Graphic Arts industry. As further developments are made in presses, press operation, and inks, the mills must study these carefully in order that the most suitable sheet be available to the printer and necessarily one which will be highly compatible with the inks to be used.

Furnish Complete Details

Again it may be pointed out that when paper is requisitioned, for multicolor work particularly, the more complete the details of the job involved that may be made available to the paper manufacturer, the more suitable will be the sheet produced. In general, these details should include, in addition to the usual ones, the type of press, printing speed, screen fineness of the engraving, the type of ink, type of fold, type of binding, and atmospheric conditions of the plant in which the paper is to be run. On unusual jobs, it is always well to make direct contact with the mill's technical department for a discussion of special characteristics desired.

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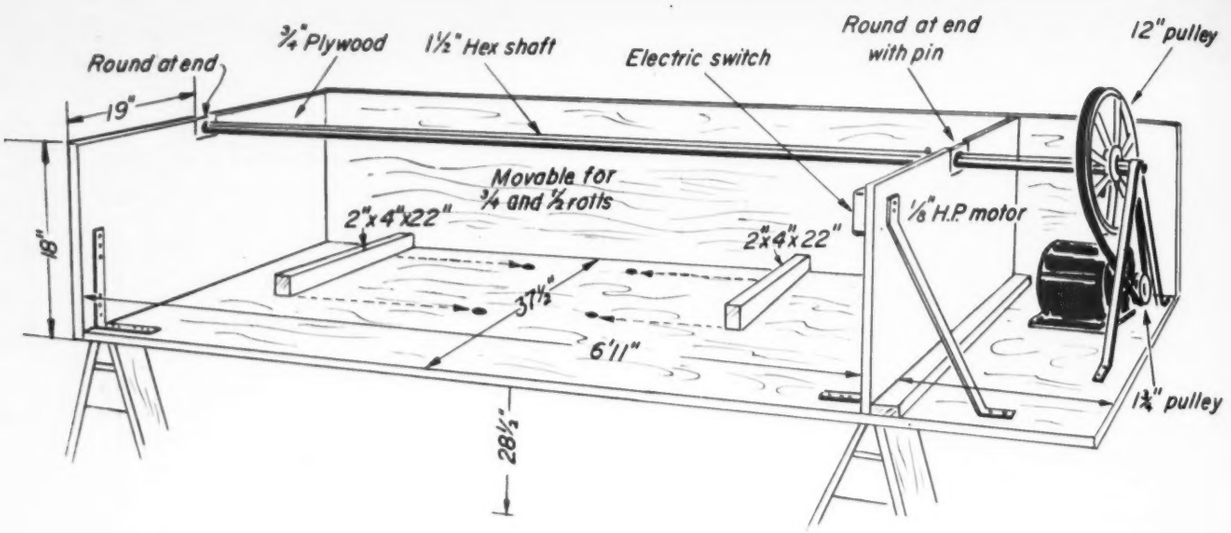
Presensitized Offset Plate

A presensitized photo-offset plate has been announced by Harris-Seybold Co. Professional offset presses up to 22 in. by 34 in. in size can be fitted with the Harris Sensitized Photo-offset Plate, as well as all standard presses down to and including office duplicators. The new Harris plate is made of heavy gauge sheet aluminum. It is reported to behave like a conventional zinc or aluminum plate in mounting on the press and will not stretch, tear or kink, and because of its thickness, which resists stretching in the plate clamps, it will hold register for multicolor work.

Sponsor states that the plate is coated on both sides, with uniformity assured by a new dip-coating process which fuses

the coating with the sheet aluminum and the ungrained plate surface allows precise halftone dots to be formed without distortion, providing a high quality of halftone reproduction. Because of longer-than-average shelf life, reports Harris, it is possible to process the plate from package to press in less than 5 min.

In requesting further information please mention PEE No. 234.



Home-made Core Stripper — The home-built and simply constructed core stripper shown in the diagram permits a man to strip all the cores used in the Albany (N. Y.) *Knickerbocker News* in an average of 1 hr. per day compared to the old method of using a razor blade. The latter system took more than a half shift. Personal injury and loss of work when the operator has been cut by accidental slippage of the hand held blade are eliminated.

The device was built from plans by James J. Morris, Mechanical Supt. of the Albany (N. Y.) *Knickerbocker News*, a Gannett Group afternoon newspaper.

Using ¾ in. plywood for the sides, back and bottom of the machine, the ⅛ h.p. motor provides sufficient power to strip five cores in one operation. The cost of building the device consisted of the carpenter's time and material.

Because full rolls (62 in.) walked, the two movable strips as indicated were attached for stripping three-quarter and half rolls.

The ratio of the small pulley (1¾ in.) to the larger one (12 in.) permits the proper speed so the paper does not tear while the machine is in operation. A 1½ in. hex. shape wood shaft, rounded on both ends to serve as bearings, can be pulled easily from the waste paper. There is a cotter pin in the driven end of the shaft to permit removal prior to pulling off the waste paper. Only newsprint for editorial purposes (copy paper) and proof paper cut to size is retained. Rolls are run down as completely as possible on the press.

The device is set on two waist high carpenter's horses. A switch is placed at the right inside of the boxed-shaped apparatus for turning the 110 v. motor on and off.

MANUAL *of* STEREOTYPING

by JOSEPH D. GOGGIN

In this book, the author discusses the three primary factors in stereotyping—equipment, materials and manipulation. Since the stereotyping process largely is an Art and the results to be obtained in good plate-making are dependent upon the coordination of equipment, materials and manipulation, a reliable guide for securing this coordination is essential.

In preparing this book, the author has drawn upon his extensive practical experience and study in the Art. The all-important preparation of the form from which the mold is to be made and the molding and casting procedures are thoroughly discussed from the standpoint of the peculiar requirements of the process.

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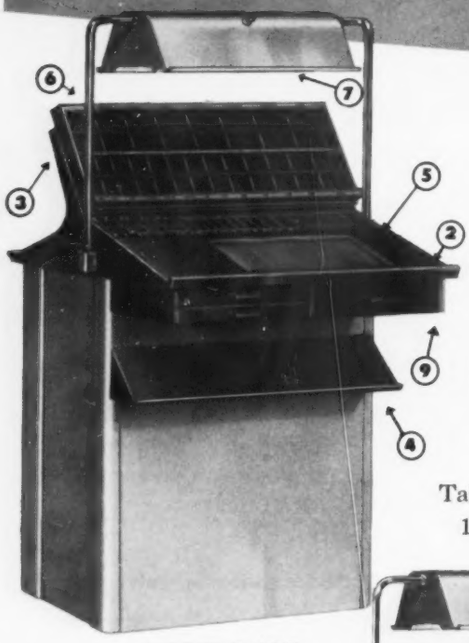

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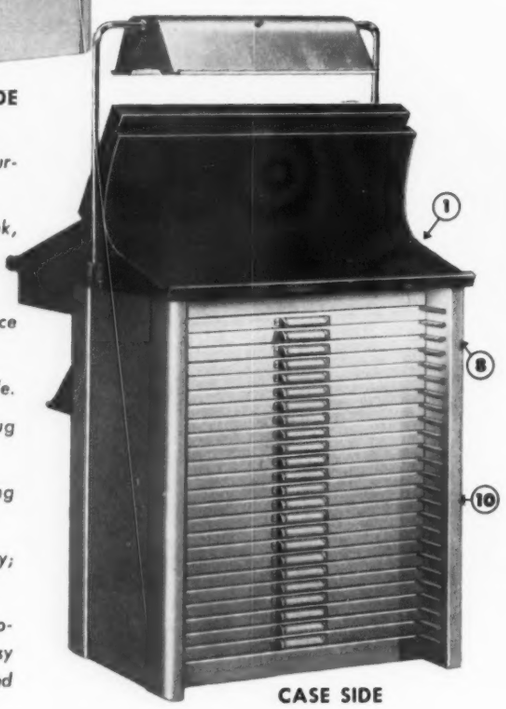

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COMPOSING ROOM:

2,677,313. CHANNEL FORMING MACHINE is for forming a series of angularly disposed grooves simultaneously in a flat plate of a magazine for a typographical composing machine. It has a plurality of reciprocable saw blades arranged in planes perpendicular to the surface of the plate and arranged lengthwise in angular relation to one another in accordance with the grooves to be cut. A permanent machine element presents a corresponding series of fixed guideways in which blades are slidable longitudinally. A power device is common to and connected to all blades for continuously reciprocating the blades in their respective guideways during each cutting operation of the machine. Invented by George Biegert, Elmhurst, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application May 26, 1951. 3 Claims.

2,678,712. JUSTIFYING DEVICE is for use with rigid, distortionless character objectives such as are used in photographic type composing apparatus where the characters are projected successively upon a photo-sensitive material in accordance with information stored in a coded register or memory device. The principle of pre-selection, avoiding computation, is applied by the use of stepping-switches rather than continuous electrically-conducting areas. The deficit measuring contacts on the stepping-switch are caused to move in discrete steps representing character and minimum inter-word widths during the entire storage period. This makes it unnecessary to use a separate line length counter and means to transfer motion from the line length counter to the deficit measuring contacts to cause them to reach a position representing the deficit for the particular line. Invented by Rene Higonnet, Cambridge, Mass. Assigned to Graphic Arts Research Foundation, Inc., Cambridge, Mass. Application Sept. 1, 1951. 7 Claims.

2,678,713. APPARATUS FOR JUSTIFYING LINES is for use with apparatus for composing lines of written matter. The justifying device comprises a field of elements arranged with reference to a pair of coordinates. The coordinates respectively represent units of line deficit and number of justification increments and each element represents a precomputed increment size corresponding to the coordinates. A selector device selects a position in said field corresponding to the units of line deficit and number of justification increments in a given line. A spacing mechanism has provision for spacing the characters in a line in multiples of a unit distance having circuits for causing different sizes of incremental spacing, each circuit being connected to one of the elements, whereby the sizes of incremental spacings are determined by the elements with which the selector is connected. Invented by Rene Higonnet and Louis Moyroud, Cambridge, Mass. Assigned to Graphic Arts Research Foundation, Inc., Cambridge, Mass. Application Sept. 1, 1951. 13 Claims.

FEEDING, FOLDING, DELIVERY:

2,677,542. SHEET FEEDING APPARATUS is of the kind in which a succession of sheets are fed to a layboard on which each sheet in turn is registered in position by engagement of its front edge and a side edge with front and side registering lays or stops. A searching device is provided which applies a succession of pushes in the feeding direction to carry the sheet up to the lays. This ensures that the sheet is pushed up to the front lays without interfering with the operation of the side lays. Invented by Headley Townsend Backhouse, Sunningdale, England, and George William Tebbs, Woodford Green, England. Said Tebbs assigned to said Backhouse. Application Nov. 9, 1949; in Great Britain, Nov. 12, 1948. 9 Claims.

MISCELLANEOUS:

2,677,971. ANGULAR ADJUSTMENT DEVICE relates to rotary machines such as printing machines, sheet or web feeders, etc., and provides a registry arrangement for a rotary device carried by a shaft mounted in bearings in the supporting frame of the machine, the bearings being arranged to accommodate an adequate axial adjusting movement of shaft as well as rotary movement. Shaft is driven by a driving gear mounted coaxially of the shaft but free of

any permanently fixed keyed relationship with shaft. A carrier is keyed to shaft, and supports at circumferentially spaced points one or more pinions which mesh with driving gear by spiral or angular teeth. Invented by Henry B. Greenwood, Baltimore, Md. Unassigned. Application Jan. 6, 1953. 6 Claims.

2,679,572. RESILIENT ROLL is for use in printing processes in combination with quick-drying inks, and has a resilient heated surface. The roll comprises a supporting core surrounded by a body including an inner layer of electrically insulating composition adhered to the core. A layer of electrically conductive plastic composition surrounds the insulation. Spaced conductors attached to conductive composition are connected to a source of electrical potential so that conductive layer will generate heat uniformly thereover when a difference in electrical potential is maintained between conductors. A layer of resilient electrically insulating plastic covers layer of conductive composition. All layers are bonded together to form an integral structure. Invented by Robert E. Workman, Kirkwood, Mo. Assigned, by mesne assignments, to The Goodyear Tire & Rubber Co., Akron, O. Application Jan. 12, 1952. 7 Claims.

PLATEMAKING:

2,677,320. DEVELOPING HEAD FOR PHOTOLITHOGRAPHIC PLATE TREATING MACHINES consists in a hollow developing head operatively supported in a photolithographic developing machine by means of power operated devices which cause the head to move in a predetermined orbit over the plates, and a pile fabric of wool cut plush positioned on the head so that the flow of water supplied to the developing head for delivery to the photolithographic plate will distend the fabric and cause the pile filaments yieldingly to contact the surface of the plate to reproduce or imitate the contact pressure obtained in hand operations. Invented by Harry A. Coughlin, St. Louis, Mo. Assigned to John S. Swift Co., Inc., St. Louis, Mo. Application Apr. 28, 1951. 5 Claims.

2,677,611. COMPOSITION FOR LITHOGRAPHIC PLATE COATINGS comprises a water soluble caseinate, a bichromate light sensitizer, and a natural saturated fat, such as natural soya bean powder, capable of forming an emulsion in water. The caseinate constitutes 40 to 80% of the total dry weight, and the sensitizer constitutes from 5 to 50% of the total dry weight. The fat content is from 0.5 to 20% of the total dry weight. Invented by Vernon L. Gregory, Piedmont, Calif., and Leonard R. MacDonnell, Richmond, Calif. Assigned, by mesne assignments, to Gregory & Falk, San Francisco, Calif. Application Nov. 10, 1950. 4 Claims.

2,678,275. DEVELOPER COMPOSITION FOR LITHOGRAPHIC PLATES of the bimetal type having a chromium surface and coated with a photosensitive emulsion, comprises a water soluble chloride of a metal selected from group II of the periodic table. It is used in an amount to dissolve the emulsion coating which has not been hardened by light, and urea is used in an amount of at least 2% to inhibit etching of the exposed chromium surface by the metal chloride. Invented by Robert M. Leekley, Westport, Conn. Assigned by mesne assignments to Printing Developments, Inc., New York, N. Y. Application Nov. 22, 1950. 12 Claims.

2,678,299. METHOD OF MAKING PLANOGRAPHIC PRINTING PLATES produces a plate having a metallic printing surface consisting of smooth, ungrained copper portions receptive to ink and dull, fine-grained chromium portions receptive to water. A resist image is applied to the smooth copper surface, and after baking this surface, it is chemically cleaned and immersed in a plating bath consisting of an aqueous solution of chromium trioxide and sulfate in the proportions supplied by dissolving 34 oz. of sodium trioxide and 0.34 ounce of sulfuric acid in a gal. of water. It is plated when an electric current of the right density and for the proper time is passed between an anode and the plate. Invented by Charles Frederick Geese, Old Greenwich, Conn., and Donald Bruce Lytle, Bronxville, N. Y. Assigned, by mesne assignments, to Printing Developments, Inc., New York, N. Y. Application July 18, 1950. 11 Claims.

2,678,510. METHOD OF MAKING RELIEF PRINTING PLATE MATRICES AND ARTICLE is for producing porous printing plate matrices involving the use of a porous bat or master, forming a relief image on the master photomechanically, and finally casting die metal on the master while the porous master is subjected to subatmospheric pressure. This is accomplished by producing a master of air-pervious, friable material, coating the surface of the master successively with a sealing coat, an undercoat of asphalt and a layer of light-sensitive material containing bichromated gelatin, glue and rubber latex, forming a relief image in the layer by exposure to light, removing unhardened portions of the light-sensitive material by immersion in a solvent, and blasting through those parts of the layer where portions have been removed to form the relief image in the master, removing the coat, undercoat and layer, casting the printing plate matrix on the master and, concomitantly with the casting step, evacuating the master by applying suction to the reverse side. Invented by Edwin W. Fuerst and William F. Fuerst, Toledo, O. Assigned to The Printing Die Co., Toledo, O. Application Mar. 20, 1952. 5 Claims.

2,679,078. SPACING ELEMENT FOR STEREOTYPE PLATES, or a backing material for a stereotype flong, comprises a relatively brittle lamination of non-absorbent paper and a blotting paper lamination secured together in face to face relation. The backing material has spaced perforations extending therethrough, and has its non-absorbent paper lamination only scored along parallel and transverse lines. The outer face of the non-absorbent paper lamination has a moisture sensitive adhesive coating. Invented by George M. Clark, Wakefield, Mass. Application Dec. 22, 1950. 2 Claims.

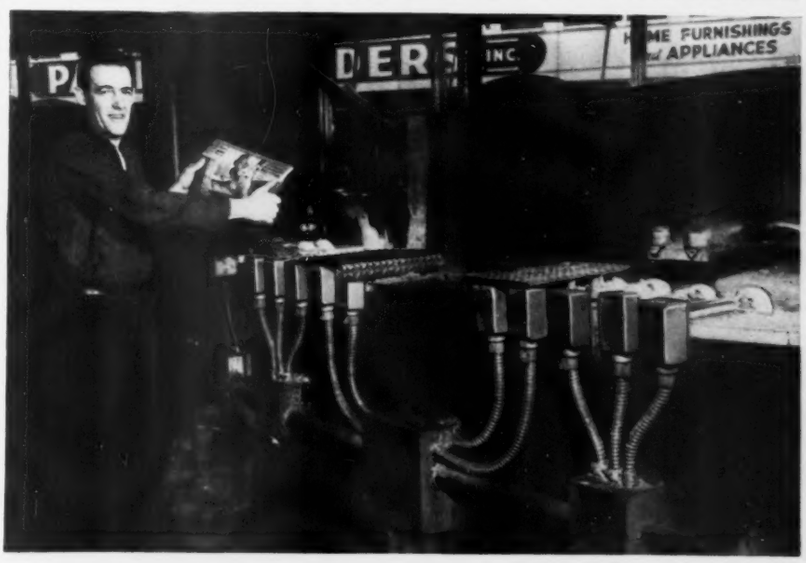
2,679,198. GRAVURE OR LETTERPRESS CYLINDER ENGRAVING or photoengraving machine comprises a support for a photo-sensitized element, and a film-negative superimposed upon the element. A tape with spaced parallel raised portions is adapted for disposition under the margins of the film-negative and the outer face of the photo-sensitized element. The film-negative has a plurality of small apertures opening into the space between the film-negative and the element. An arrangement is provided for exhausting the air from the sealed-off space between the negative and the element to produce contact between the two. Invented by Theodore Hommel, Webster Groves, Mo. Assigned to Universal Match Corp., St. Louis, Mo. Application Mar. 18, 1950. 5 Claims.

2,679,279. APPARATUS AND METHOD FOR BENDING AND STRAIGHTENING CURVED PRINTING PLATES comprises a concave slab adapted to support the plate to be straightened. Adjustablec lamps are manually swingable to a position above and adjacent the concave slab against one end of the plate. Screw clamps are fixed on the slab and are effective upon the other end of the plate. The screw clamps may be operated to apply force to the other end of the plate, whereby the opposite ends of the plate are compressed toward one another and the body of the plate is expanded for intimate contact under pressure with the concave slab. Invented by Joseph Schwartz, Melrose Park, Pa., and Amos Ackley, Camden, N. J. Assigned to Westcott & Thomson, Inc., Philadelphia, Pa. Application May 23, 1952. 4 Claims.

PRINTING PRESSES AND EQUIPMENT:

2,678,001. LITHOGRAPHIC PRESS WITH COMBINED INKING AND WATER SPRAY DAMPENING includes a plate holder, an ink-applying unit including a final ink form roll and supply and distributing arrangements consisting of at least one preliminary roll engaging the form roll and an inker branch including an ink form roll to be engaged by the plate as it approaches the final form roll. A sprayer applies a spray of aqueous ink repellent to the inker branch so that repellent is received by the form roll predominantly over the final form roll. A drier is adjacent the part of ink-applying unit other than the branch and is arranged along the course of movement of ink beyond the branch so that the final form roll is maintained relatively free of repellent. Invented by William W. Davidson, jr., Evanston, Ill. Unassigned. Application Jan. 6, 1950. 3 Claims.

2,678,565. MECHANISM FOR REPLACING ENDLESS BELTS is for use with a belt tensioning and speed up mechanism for web rolls supplying paper to a printing press. It provides for supporting a shaft end while making provision



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for placing an endless belt around the shaft end and a frame surrounding and having a seat rotatably supporting the bushing which has a recess for accommodating a belt course between the bushing and the seat. The frame has an opening into the seat for accommodating a belt and permitting insertion of a course in the recess of the bushing. Invented by Jack Bryer, New York, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application Dec. 11, 1951. 2 Claims.

2,678,602. DRIVE AND BRAKE SYSTEM FOR PRINTING PRESSES AND THE LIKE uses only one motor, which is of the constant speed type. The motor drives the flywheel shaft through a friction belt and a stepped pulley drive which is of low cost and has a clutching action so that the motor may be run at its normal speed while inching the press. The belt may be shifted on the stepped pulleys to vary the speed of the press for different jobs. The motor runs at its normal speed while the press is in use whether the main drive of the press is being driven or not and hence the blower pump and tape delivery are driven directly from the shaft of the motor which drives the press. The brake system is interconnected with the drive system. Invented by John Kuns, Pittsburgh, Pa. Assigned to Miller Printing Machinery Co., Pittsburgh, Pa. Application Sept. 29, 1948. 3 Claims.

2,678,822. SHEET DETECTING DEVICE is of the kind employed with printing machines and in which a detector finger extends upwardly and is provided with a reciprocatory movement from a position at which the upper end of the finger is below the plane of the surface of the feed-board of the machine to a position at which the upper end is above the plane for engagement by the leading edge of a sheet advancing over the board. The pivotally supported finger has a step adjacent its upper end in which there is a stop positioned to engage the step on downward movement of the finger to arrest movement of said finger unless the finger has been swung by a sheet so as to move the step clear of the stop. Invented by Headley Townsend Blackhouse, Sunningdale, England. Unassigned. Application May 8, 1951; in Great Britain May 10, 1950. 4 Claims.

PRINTING INK:

2,678,278. ANHYDROUS MOISTURE-SENSITIVE PRINTING INK VEHICLE is stable to small amounts of water, but insoluble in an unlimited amount of water. The vehicle comprises diethylene glycol and the reaction product of shellac and guanidine. The guanidine carbonate is present in an amount insufficient to react with all the free terminal carboxyl groups of the shellac. Invented by Alfred F. Schmutzler, Stamford, Conn. Unassigned. Application Feb. 29, 1952. 8 Claims.

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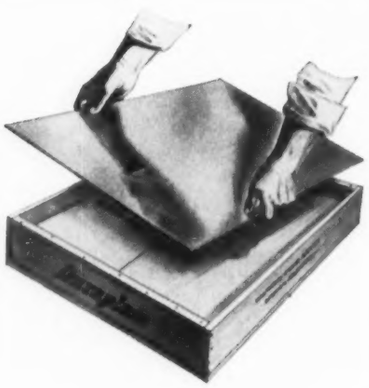

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Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. — 1954 Conf., Hotel Jefferson, St. Louis, Mo., Oct. 11, 12, 13. Pres., D. H. Murnik, Oakland National Engraving & Gravure Co., 307 Tenth St., Oakland 7, Calif.; Exec. Secy., Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf. — 1955 Conf., Edgewater Beach Hotel, Chicago, June 6, 7, 8. Chairman of the Committee, Joseph E. McMullen, Prod. Mgr., Milwaukee (Wis.) *Journal;* Mgr., ANPA Mechanical Dept., Richard E. Lewis, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute — 1954 Conv., Hotel Hershey, Hershey, Pa., Oct. 18, 19, 20. Pres. Sidney Satenstein, American Book-Stratford Press, Inc., 75 Varick St., New York 13, N. Y.; Secy., Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Fifth District Craftsmen's Conf. — 1955 Conf., Netherland-Plaza Hotel, Cincinnati, Aug. 6. Pres., Howard Keefe, Sales Representative, Cincinnati Lithographing Co., 4318 Duneden Ave., Cincinnati 36; Secy.-Treas., Dave Walker, Adm. Asst., Graphic Arts Assoc. of Michigan, 320 W. Lafayette St., Detroit 26.

Graphic Arts Trade Assoc. Executives — Secy., Arthur L. Johnson, Graphic Arts Assoc. of Milwaukee, 704 W. Wisconsin Ave., Milwaukee 3, Wis.

Gravure Technical Assoc.—1955 Annual Meeting, Drake Hotel, Chicago, Ill., Feb. 2, 3, 4. Pres. John E. Hazel, New York *Daily News,* 700 Pacific St., Brooklyn 17; Secy.-Treas., Frank Sportelli, International Color Gravure, Inc., 39 W. 60th St., New York 23, N. Y.; Secy., Edward S. St. John, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conf. — 1955 Conf., Sheraton-Cadillac Hotel, Detroit, Mich., Jan. 16, 17, 18. Pres., Frank Dassori, Pressroom Supt., Detroit *Times;* Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. — 1954 meeting, Hotel Custer, Sept. 25-26, Galesburg, Ill. Pres. Eldon L. Martin, Galesburg (Ill.) *Register-Mail;* Secy.-Treas., Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.; Chairman Supplymen's Committee, Joseph D. Goggin, Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago 39.

Intl. Assoc. Electrotypers & Stereotypers — 1954 Conf., Greenbrier Hotel, White Sulphur Springs, W. Va., Oct. 28-Nov. 1.

Pres., Carl N. Becker, Becker Electrotype Co., 144 N. Water St., Milwaukee 2, Wis.; Exec. Secy., A. P. Schloegel, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen — 1954 Conv., Bellevue-Stratford Hotel, Philadelphia, Aug. 8-11. Pres., Howard N. King, The Maple Press, York, Pa.; Exec. Secy., Pearl E. Oldt., Rm. 806, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.; Convention Chairman, Ray Miller, 300 Valley View Rd., Media, Pa. 1955 Conv. Netherland-Plaza Hotel, Cincinnati, Aug. 7, 8, 9, 10.

Intl. Graphic Arts Education Assoc.— Pres., Patrick F. Boughal, New York School of Printing, 461 Eighth Ave., New York 1, N. Y.; Exec. Secy., Samuel M. Burt, 719 Fifteenth St. N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — 1954 Conv., Hotel LaSalle, Chicago, Sept. 23, 24, 25. Pres., Harold L. McGirr, Morris & Walsh Typesetting Co., Inc., 129 Lafayette St., New York, N. Y.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf. —Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—1954 Meeting, Town House Hotel, Kansas City, Kan. Sept. 11-12. Kansas Pres., Howard Wilson, Jetmore (Kan.) *Republican* Secy-Treas., Larry Miller, Gen. Mgr., Kansas Press Assoc., 701 Jackson St., Topeka, Kan.; Missouri Pres., Louis N. Bowman, *Tri-County News,* King City, Mo.; Secy-Treas., William A. Bray, Missouri Press Association, 220 Walter Williams Hall, Columbia, Mo.; Supplymen's Committee Chairman, Clark O. Murray, Inland Newspaper Supply Co., 422 W. 8th St., Kansas City 5, Mo.

Lithographers National Assoc. — Exec. Dir., W. Ford Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conf. — 1955 Conf., Ambassador Hotel, Atlantic City, N. J., March 17, 18, 19. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Dir., Theodore A. Serrill, PNPA General Mgr., 304 Telegraph Bldg., Harrisburg, Pa.

National Assoc. of Litho Clubs — 1955 Conv. Milwaukee, Wis., May 5-7 (hotel to be announced later). Pres., Jack Blades, Washington, D. C.; Exec. Secy., Frank Mortimer, U. S. Government, Printing Office, Washington, D. C.

National Assoc. of Photo Lithographers— 1954 Conv., Hotel Statler, New York, N. Y., Sept. 22-25. Pres., A. J. Fay, 75 Varick St., New York 13, N. Y.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc. Pres., Richard B. Tullis, Pres. Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh 33, Pa.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Div. — 1954 meeting, Conrad Hilton Hotel, Chicago, Oct. 18-20. Gen. Chairman, Peter J. Bernard, Director of Personnel and Safety, H. Wolff Book Mfg. Co., 508 W. 26th St., New York 1, N. Y.; Staff Rep., Fred Lubet, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Mechanical Conf. — 1954 Conf., Hotel Statler, Boston, Mass., Oct. 16-17. Pres., J. William Powers, Mech. Supt., Burlington (Vt.) *Free Press;* Secy.-Treas., Walter C. Crighton, Comp Room Supt., New London (Conn.) *Day.*

New York State Capital District Mechanical Conf.—1955 Conf., Albany, N. Y., January (hotel and dates to be announced later). Pres., Floyd Laurenty, Schnectady (N. Y.) *Union-Star;* Secy., Walter E. Lewis, Asst. Supt., Schnectady *Union-Star.*

Northwest Mechanical Conf.—Pres., William Benson, Pressroom Foreman, St. Paul (Minn.) *Pioneer Press* and *Dispatch;* Secy.-Treas., Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conf. — 1954 meeting, Multnomah Hotel, Portland, Ore., Sept. 17-19. Pres., Wm. E. Gibbons, Prod. Mgr., Portland (Ore.) *Journal;* Secy., Don Newhouse, Prod. Mgr., Portland (Ore.) *Oregonian;* Chairman Supplymen's Committee, Intertype Corp., Portland, Ore.

Printing Industry of America—1954 Conf., Hotel Statler, Detroit, Mich., Nov. 15-19. Pres., James J. Rudisill, Rudisill & Co., Lancaster, Pa.; Gen. Mgr., James R. Brackett, 719 Fifteenth St., N. W., Washington 5, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc.—1955 Meeting, Boston, Mass., May 11, 12, 13 (hotel to be announced later). Pres., John Davis, jr., Exec. Vice Pres., Judd & Detweiler, Inc., Florida Ave. and Eckington Pl., N.E., Washington 2, D. C.; Exec. Secy., John Reed, 719 Fifteenth St., N.W., Washington 5, D. C.

Rocky Mountain Mechanical Conf.—1954 Conf. Albany Hotel, Denver, Colo., Oct.

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1, 2, 3. Pres., Emory Cross, Scottsbluff (Nebr.) *Star-Herald*. Sponsored by Colorado Press Assoc.

Screen Process Printing Assoc. — 1954 Conv., Jefferson Hotel, St. Louis, Mo., Oct. 30-31, Nov. 1-2. Pres. Stanley R. Snider, Sniders' Poster Process Co., 2638 St. Louis St., New Orleans, La.; Exec. Secy., Robert H. Blundred, 549 W. Randolph St., Chicago 6. Conv. Committee Chairman, William Fraser, 1627 Locust St., St. Louis, Mo.

SNPA (Eastern Div.) Mechanical Conf.— 1954 Conf. Whitley Hotel, Montgomery, Ala., Aug. 23, 24. Conf. Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal* and *Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supplymen's Committee, James R. Geer, Coosa River Newsprint Co., Coosa Pines, Ala.

SNPA (Western Div.) Mechanical Conf.— 1955 Conf., Dallas, Tex., March 6, 8, hotel to be announced later. Conf. Chairman, Carl P. Lawrence, Tulsa (Okla.) *World & Tribune;* Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman, Supplymen's Committee, Eddie P. Gaughan, New England Fibre Blanket Co., 1225 S. Trenton Ave., Tulsa 10, Okla.

Technical Assoc. of the Graphic Arts — 1955 Conv., Somerset Hotel, Boston, Mass., May 9, 10, 11. Pres., G. L. Erikson, Braden-Sutphin Ink Co., 3800 Chester Ave., Cleveland 14; Secy.-Treas., George S. Hammer, 8 Cherry St., Marblehead, Mass.; Convention Chairman, Merrill Friend, Technical Director, Spaulding Moss Co., 113 Franklin St., Boston 10, Mass.

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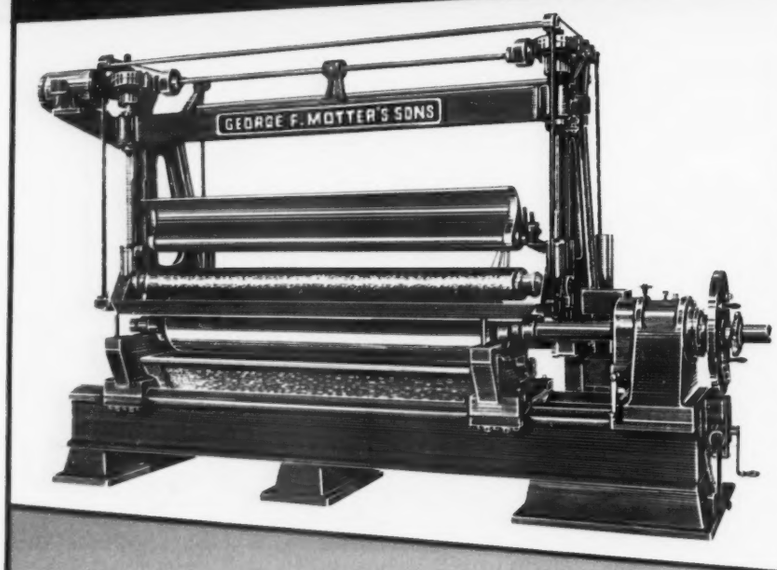

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NEWS ITEMS

LYELL

Alfred W. Lyell has been appointed sales representative for Tennessee by officials of Ideal Roller & Mfg. Co., according to a recent announcement. Lyell was pressroom foreman of Francis & Lusky Co. for five years and has been general superintendent and Asst. Vice Pres. of Cullom & Ghertner Co. for the last seven years.

CASE

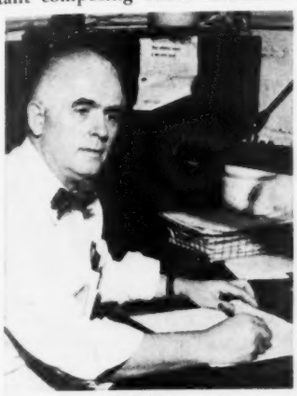
Fairchild Officer Named — John M. Case has been named executive vice president of Fairchild Camera and Instrument Corp., according to a recent announcement by Pres. John H. Clough. Shortly after joining Fairchild in 1953 as vice president of marketing, Case became director of the sales program for the company's products. A graduate of Andover and Harvard, Case was with Intl. Business Machines for 22 years, part of which he served as manager of that firm's Metropolitan New York District.

NUNLIST

Officer Elected by Hoe —Marshall B. Nunlist has been elected vice president and treasurer of R. Hoe & Co., Inc., it was recently announced by Pres. Joseph L. Auer. Nunlist, 47, is a former vice president of Glen Alden Coal Co., Wilkes-Barre, Pa. A graduate of the Harvard Business School, Harvard Engineering School and Stanford University, he is a C.P.A. and a member of the Budget Committee of the Controllers Institute of America and the American Institute of Mining Engineers.

Gerard E. Nistal has been appointed Asst. Mgr. of the Advertising and Sales Promotion Dept. of the Mergenthaler Linotype Co. Previously with a New Jersey industrial advertising agency as administrative assistant to the president, Nistal formerly was industrial advertising and promotion manager for the Philco Corporation, and advertising and public relations manager for Radiomarine Corp. of America, New York, N. Y.

Norfolk Newspapermen Advanced — Several personnel of Norfolk (Va.) Newspapers, Inc., were recently promoted. They include: Earl L. Deal, General Supt.. of the *Virginian-Pilot* and *Ledger-Dispatch* composing rooms; Andrew B. Capps, *Ledger-Dispatch* composing room foreman; Ralph L. Law, *Ledger-Dispatch* assistant composing room foreman. Deal



DEAL

succeeded the late Finney T. Carter, Capps succeeded Deal, and Law succeeded Capps. Deal is former publisher of the Salisbury (N. C.) *Carolina Watchman*, a Lexington, N. C. daily newspaper, and the Danville (Va.) *Commercial Appeal*, of which he was also owner. He also has been head machinist for Norfolk Newspapers, Inc.

PISARRA

Appointment of Thomas A. Pisarra as regional manager for Heidelberg Eastern, Inc., in Illinois, Wisconsin, and the upper peninsula of Michigan, has been announced by Exec. Vice Pres. Charles T. Pope. Pisarra joined Heidelberg in 1951 as a salesman in the New York area, later serving as district manager in Michigan. He had previously been in administrative work. A New York University graduate, Pisarra also attended St. John's College and the College of the City of New York. He belongs to the Printers' Supply Salesmen's Guild, Detroit.

Floyd E. Barmeier, 63, until last year Midwestern Production Mgr. of Sun Chemical Corp., and a 40-year veteran of the printing ink industry, died June 17 in his Riverdale, Ill., home.

Gutwein Speaks at Banquet—William F. Gutwein, Louisville, Ky., labor relations consultant, spoke at the recent third annual Certificate of Craftsmanship Award Banquet of the Master Printers Section of Printing Industries Assoc. in Los Angeles. Presentation of certificates of craftsmanship to more than 150 Los Angeles printers was made by John H. Doesburg, Secy., Natl. Master Printers Section. Recipients were nominated by their supervisors or management. Local nominations were screened by a committee and forwarded to the certificate and reviewing committees of the Natl. Master Printers Section. Chairman of the meeting was Phil Ellsworth, chairman of the Los Angeles Master Printers Section.

Star Bulletin's President Dies — Joseph Rider Farrington, President and Publisher, Honolulu *Star-Bulletin*, died of a heart attack, June 19. Farrington did his first newspaper writing as a school correspondent for *The Star-Bulletin* while attending Panahou School. He was also President of the Honolulu Lithograph Co. and the Hilo (Hawaii) *Tribune-Herald* and a Vice President of Hawaiian Broadcasting System.

Harloe Named by Hoe—William A. Harloe has been appointed General Mgr., Saw Div., of R. Hoe & Co., Inc., according to Pres. Joseph L. Auer. Harloe has had executive experience in manufacturing, merchandising and shipping operations.

William J. Murphy has been appointed Vice Pres. and General Mgr. of Nassau Photo-Engraving Co., Inc.; Eastern Graphic Arts Supply Co., Inc., and Empire Laboratories, Inc. Murphy, a practicing attorney who has been a director and general counsel of the companies for several years, until recently was secretary of R. Hoe & Co., Inc. Harry M. Crosby, who announced Murphy's appointment, is president of all three companies.

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Three Promoted at Timken — A. M. Donze, Vice Pres. in Charge of Manufacturing, Timken Roller Bearing Co., has announced promotion of Herschel M. Richey to general factory manager, Henry A. Tobey to factory manager of the Canton (O.) and Gambrinus bearing factories, and Wilbur L. Young to general superintendent of the Canton Bearing Division. Richey joined the company as a toolmaker in 1916. He became general superintendent in 1934, assistant factory manager in 1940, and factory manager of the Bearing and Rock Bit Divs. in 1944. Tobey started in the company Metallurgical Dept. in 1928 and was named bearing factory metallurgist in 1940, and general superintendent of the Canton Bearing Div. in 1948. Young began with the company in 1937 as an engineer's helper in the boilerhouse. Later that year he was transferred to the tool room as a tool grinder, where he remained until 1941, when he was promoted to foreman of the Roller Inspection Dept. Also in 1941, Young was named general foreman of that department, and seven years later was promoted to assistant chief inspector.

RICHEY TOBEY YOUNG

Printing Process Demonstrated — One of the participating firms in the recent Business-Industry-Education Day in Pittsburgh, Pa., was that of Herbick & Held Printing Co., which was host to 17 teachers. Pictured in part of the pressroom of the plant are the teachers and Leo N. Carmain, Vice Pres. in Charge of Production (shown on platform alongside the plant's Harris Automatic press), who explained and demonstrated printing.

100th Craftsmen's Club Formed—The recently organized San Joaquin Valley Craftsmen's Club is the 100th local club to join the Intl. Assoc. of Printing House Craftsmen. Intl. President Howard King was on hand for the presentation of the club's charter which took place at a meeting held in Fresno, Calif. Officers of the club shown here at the ceremonies are, from left to right: Ward Williams, Vice Pres.; Intl. President King; Floyd Swank, President; and Wayne McComas, Secretary-Treasurer. Others present at the event were A. R. Tommasini, Intl. Third Vice Pres., and Gordon Holmquist, Intl. Past Pres. A total of 59 members signed the charter.

George G. Fetter, jr., announced his retirement as president of Fetter Printing Co., Louisville, Ky., at the June annual meeting, and was elected Chairman of Board. Succeeding him as president is Harold W. Braun, with the company since 1941, a director since 1949 and executive vice president for the last two years. Stephen D. Reynolds and William B. Turner, jr., directors and district sales managers since 1950, were elected vice presidents. Fetter has served as United Typothetae and Printing Industry of America director. He is a member of the Ash Khan Crew of PIA, a director of Southern Graphic Arts Assoc. and has been president and director of the Louisville Graphic Arts Assoc. Fetter also is director and vice president of Natl. Assoc. of Photo-Lithograhers, and is a member of Lithographers Natl. Assoc. and Direct Mail Advertising Assoc. Braun is a member of the PIA Board of Directors, chairman of the Ratio Study Committee of PIA, and a member of LGAA.

Edward Feckter Appointed — Edward Feckter recently has been appointed production manager of Calvert Lithographing Co., Detroit, according to Pres. Robt. A. Ritter. Feckter is former superintendent of Ross Gould in St. Louis.

Recent ML Co. Changes — Donald Reich, former Director of Planning for Mergenthaler Linotype Co., has ben elected Linotype secretary effective Aug. 1, it was announced. He replaces John E. Walsh, jr. Reich joined Linotype in 1949 as assistant to the secretary and in 1951 was appointed administrative assistant to the President. He also will continue to supervise coordination and integration of planning, economic studies, market research, sales forecasting and control, operational analysis and production scheduling. William H. Kistler was named Manager of Planning. He formerly was administrative assistant to the President . . . John W. Reid, Pres., announces that Edward D. Betts has been elected a Director and Vice Pres. of Canadian Linotype, Ltd. Betts joined Linotype in 1929 and served as New York Agency Mgr. for several years. Betts succeeds Harold F. Bott, recently appointed manager of Linotype's Dallas (Tex.) agency. Prior to joining Canadian Linotype, Bott was the company's Atlanta, Ga., Sales-Service Mgr. Karl E. Ponath, Dallas agency manager, has been transferred to Linotype's San Francisco agency.

Chicago Craftsman Officers — The Chicago Club of Printing House Craftsmen recently elected officers for 1954-55. President is Steve Sluka of Vogue Wright Studios; First Vice President is Harold E. Sanger, Marshall High School Graphic Arts instructor, and second vice president is Lowell L. Dummer, co-owner of Bruce Offset Co. Edward M. Egan, Asst. Sales Mgr. of Twentieth Century Press, Inc., is treasurer; Frank E. Swanberg, Director of Typography for Spiegel, Inc., is financial secretary, and recording secretary is Robert A. McKeighan of Columbia Printing Co. The club also honored past presidents and life members and presented awards to members entered in the perfect attendance and membership contests.

LaFontaine-Detroit Appointment—Robert E. (Bob) Hamilton has become a stockholder with LaFontaine-Detroit and has been named a Vice President and senior contact executive. He was manager of Dearborn Inn and other Ford properties from 1938 through 1952, and manager of a Detroit Masonic Temple for seven years. Hamilton was also Sales and Promotion Mgr. for the Detroit Hotel Statler from 1927 through 1934. Pres. T. J. LaFontaine of LaFontaine-Detroit and its production affiliate, LaFontaine Industries, also announced that Earl Coppock, Exec. Vice Pres., and Pat LaFontaine, Treas., have purchased interests in LaFontaine-Detroit.

Setting New Standards in

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and

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BLACK BEAUTY STEEL

The Rust Resistant Steel of greater accuracy, at competitive prices, or

ALUMINIZED STEEL

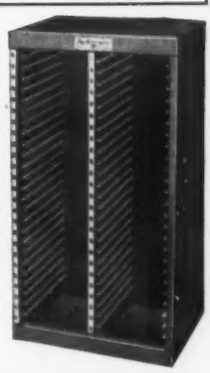
of high precision uniformity, at slightly higher cost.

•

All have Mayville's extra quality features—Safety Rolled Edges and Reinforced Corners.

ALL STEEL

GALLEY CABINETS



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Reinforced Construction

25-50-100 Galley Sizes

Special Size Galleys and Galley Cabinets Made to Order

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See Your Dealer or write for literature

Mayville METAL PRODUCTS CO.

MAYVILLE, • WISCONSIN

You can't gamble with numbers...

...They make or break a perfect printing job!

ONLY WETTER NUMBERING MACHINES GIVE YOU CONSISTENTLY

- PERFECT NUMBER SEQUENCE
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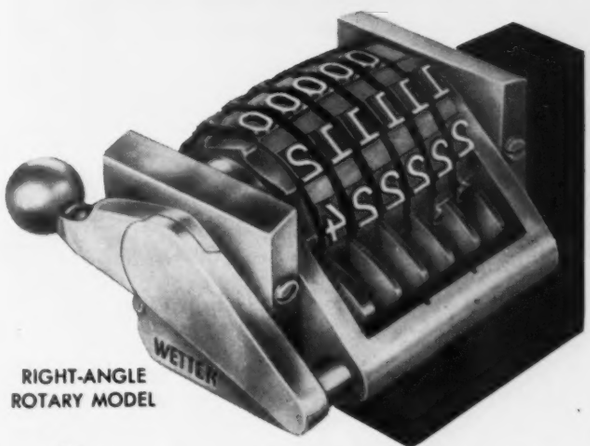

RIGHT-ANGLE ROTARY MODEL

Custom-designed for today's rotary presses, this cam-actuated, flat-base, curved-face rotary machine imprints—with precision—a line of numbers at right angles to the axis of the impression cylinder. Features: sturdy number wheels with heavy-duty ratchets in a one-piece steel frame; wheels carefully finished to conform to curvature of cylinder. Available in either Roman or Gothic style figures.

Number *right* and number *better* ...

... *always* number with a WETTER!

Write for free descriptive folder today.

WETTER NUMBERING MACHINE CO.

ATLANTIC AVENUE & LOGAN STREET · BROOKLYN 8, N.Y.

ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

Pacific Conference Program Leaders

Program leaders for the Pacific Newspaper Mechanical Conference have been announced. The conference will be held at Multnomah Hotel, Portland, Ore., on Sept. 17, 18 and 19.

On Friday afternoon, tours of Crown Zellerbach Paper Co., and the Portland *Journal* and *Oregonian* plants have been arranged. On Friday night, Sept. 17, Pres. W. E. Gibbons will welcome the executives attending. Immediately after, a Non-Metropolitan Newspaper session will be held. Chairman of the meeting will be Ernest Loedner of the Lewiston (Id.) *Tribune*, with Cochairman Jack Shewell of the Ogden (Ut.) *Standard-Examiner*. A panel of selected men will assist the chairmen.

The Composing Room session will occur Saturday morning, Sept. 18. Fred Moyer, jr., Portland *Oregonian*, will lead the discussion. Chairman of the meeting will be D. B. Belleisle, Coos Bay (Ore.) *Times*, and Cochairman will be Frank Mack, Victoria (B. C.) *Press*. A panel of selected men will assist the moderator.

The Press-Stereo meeting gets under way Saturday afternoon, Sept. 18. Leo Shea, Production Mgr., San Francisco (Calif.) *Examiner*, will lead the discussion. Chairman is Glen Young, Portland (Ore.) *Journal*. George Duke, Salem (Ore.) *Capitol-Journal*, will serve as Co-chairman. A panel of experts will assist.

Immediately following the Press-Stereo session, the Stereo session will get under way. At this time, Joseph Goggin of Newspaper Publishers Supply, Chicago, will lead the discussion. Chairman of the meeting will be Mark Mossing, Seattle (Wash.) *Times*, while Lewis Martinez of the Oakland (Calif.) *Tribune* will serve as Co-chairman.

On Saturday night, Sept. 18, occurs the session called *Production and Reproduction of Advertising*. Chairman of the meeting will be Harry Machum of the Portland (Ore.) *Journal*. Co-chairman will be William Hughan, Vancouver (B. C.) *Sun*. There will be two panels—one consisting of advertising agency representatives and the other panel will consist of newspaper mechanical executives. This meeting has always created a lot of interest at the Pacific Conference meetings.

C. M. (Larry) Flint, Research Director, ANPA, will present a report related to ANPA research progress at the Sunday morning, Sept. 19, session. Immediately following, the Mailroom meeting will be opened. To lead the discussion, Bert Johnson, Portland (Ore.) *Journal*, has been delegated. Chairman will be George Henderson, Portland (Ore.) *Oregonian*. Co-chairman will be C. B. Abernethy, San Francisco (Calif.) *Call-Bulletin*.

Simultaneously with the Mailroom meeting, the Photoengravers' meeting will be held. Chairman and Co-chairman respectively will be Harry Machun and Harry Hale.

Also concurrently with the Mailroom meeting, the Machinists' meeting will be held. Chairman will be Clark Congleton of the Seattle (Wash.) *Times*, while the Co-chairman will be Virgil Shidler of the Glendale (Calif.) *News*.

The closing session will be held Sunday afternoon, Sept. 19. This will consist of a banquet and entertainment. Two speakers are scheduled: Mike Frey of the Portland (Ore.) *Oregonian*, and Wm. W. Knight of the Portland (Ore.) *Journal*.

The truth about type metals

They are *not* all the same. It *does* make a difference from which company you buy them. You want *service* when you buy type metal. Federated gives you . . .

1. Expert technical help in your shop when you want it.

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3. Helpful literature like "How to Save Money on Type Metals" and a cartoon style wall chart on Remelt Practice.

4. 24 sales offices and 14 plants across the nation for your convenience in ordering and delivery.

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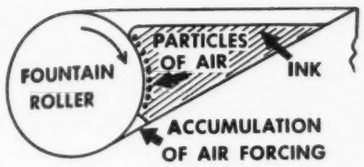
Radiant Heat Used to Warm Ink In Press Fountain

Printing inks, especially oil-base carbon type inks, if allowed to become slightly chilled, can cause difficulties that often result in press production slowdowns and wasted materials. At Acme Printing Co., Everett, Mass., poor transfer and excessive stickiness of chilled ink were eliminated by using radiant heat to warm the ink supply on the presses to give it free-flowing qualities.

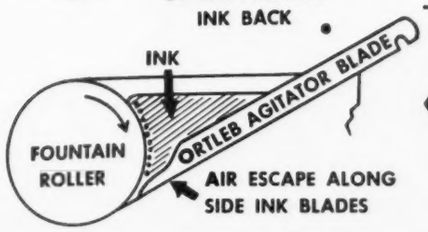
On cold days when the ink temperature dropped below approx. 60 degrees F. or after the press was unused for a period of time, pressmen at Acme found that carbon-base ink was excessively tacky and would not transfer smoothly from ink fountain to the distributing rollers. The paper would pick or tear, so that sometimes at much as 20% of the run had to be discarded. Ink distribution was frequently uneven. Occasionally, a sheet of paper would wrap around the rollers and be shredded, necessitating a complete washup of the press. In an effort to keep the ink uniform and in continuous contact with the fountain roll, the pressman was obliged to stir the fountain periodically, which diverted his attention from the run.

A. A. Fiorentino, Superintendent of the Letterpress Div., suggested that a Wiegand Chromalox Radiant heater be mounted on the delivery frame over the ink fountain. Now on cool mornings the press can be run without difficulty after a very short warm-up period for the ink.

THE CAUSE OF INK NOT FEEDING...

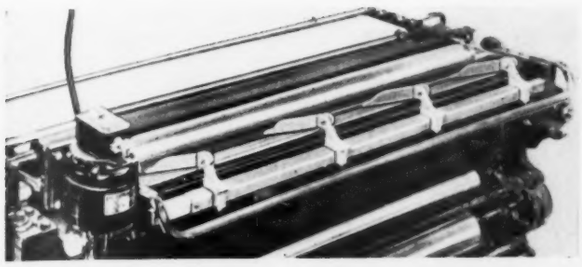


Fountain roller carries air into ink and it accumulates at feeding point, thereby causing ink to back up. When using thin ink, this air may be seen, as air bubbles will form on top of ink when press stops. On heavy bodied ink this air cannot penetrate and thereby causes ink to back up.



By the use of ORTLEB INK AGITATOR blades with a back and forward motion down close to ink roller, air is forced to escape along Agitator blades, allowing ink to feed perfectly, and therefore maintain uniformity of color.

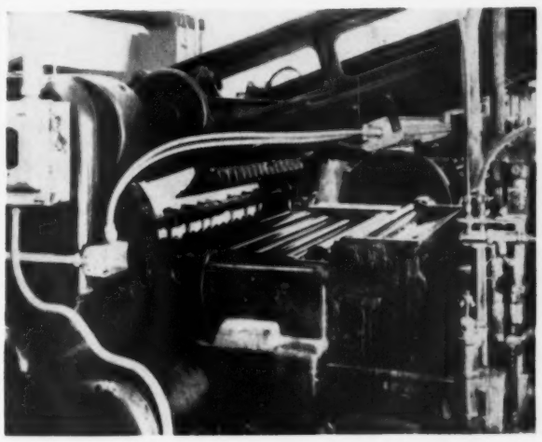
Priced from $195-$210 — Co-operable models as low as $110



New 4-blade Ink Agitator available for presses from 36"-88" wide

ORTLEB MACHINERY CO.

3818 LACLEDE AVE. • ST. LOUIS, MO.



When the ink temperature in press fountains drops below 60 deg. F. at Acme Printing Co., Everett, Mass., a Chromalox 900 w. radiant heater mounted above each press fountain is turned on to bring the ink up to proper working temperature. Installation shown is on a Miehle cylinder press. A similar radiant heater is used on the Miller Simplex in background.

Although any type of heat would have been satisfactory in theory, radiant electric heat was selected for use in this case. A radiant heater was mounted above the fountain, as shown in the accompanying illustration. The heat is projected into the fountain, heating the entire ink supply uniformly. The 900 w. heater is regulated with a controller that the pressman adjusts to give just enough heat to keep the ink flowing freely.

With the radiant heater, the pressman cannot receive an electric shock even if he brushes directly against the heater strip. The current-carrying member is sheathed in a ceramic insulator. The ceramic, in turn, is enclosed in a tubular metal shell. Thus, the heat is radiated from this outer shell but the shell itself carries no current.

600 Words Min. by Wire

A telegraphic system transmitting 600 words per min. about ten times faster than conventional teletypewriter units, was placed in experimental operation recently by the American Telephone & Telegraph Co., in cooperation with American Newspaper Publishers Assoc., Associated Press, Boston (Mass.) *Herald-Traveler*, Teletype Corporation and Teletypesetter Corporation. The system, which consists of a high speed Teletype tape punch and reader units, was developed by Teletype Corporation. A trial run will be held to determine the reliability of the system and the degree to which it can be used generally.

J. W. Reid Honored—J. W. (Jack) Reid, Vice Pres. in Charge of Sales of Mergenthaler Linotype Co., recently was honored for 40 years' service with the organization. Reid started with Linotype in the accounting department in 1914, and was treasurer of the company for three years prior to taking his present position in 1952.

Soundly Depreciated to Assure Outstanding Value

2 Harris Model LTC units 21x28—
Clean, bright and shining. New 1949—immaculate maintenance.

Typical example of top-grade minimum price offerings:

Rosback Pony Gang Stitcher new 1950
Miller Major & Miller Two Color units
Seybold Cutters 38, 44, 50 & 74"
Miehle (Straightline) Horizontals
Miehle V-45 Verticals
Baum Model 433 Folder 25x38
Model 00 Cleveland folders
Models W & E Cleveland folders
Model B and No. 2 Kelly presses

TYPE & PRESS of Illinois Inc.
3312 North Ravenswood
CHICAGO 13

Four Color Cartons Printed by Gravure

A FOUR-COLOR rotogravure-printed take-home carton for carrying 12 oz. beer cans has been introduced by the Goebel Brewing Co., Detroit. The immediate response to supermarket and beer store test displays was reported to be a tripling of week-end sales of cans of beer.

Probably the prime reason for these results was the choice of a series of pictures of fish and game subjects used on the cartons. Gaylord Container Corp., St. Louis, a long-time supplier of cartons for Goebel, had recently purchased a new Champlain roll-fed rotogravure press and was assigned the job. It was felt that rotogravure would allow flexibility in carton design and would reproduce the color art faithfully and in detail.

A conference was first held in Chicago attended by the artist, carton manufacturer, plate supplier and ink manufacturer. Problems which each might encounter were discussed and the entire project, from painting to printing, was outlined to eliminate obstacles which might otherwise be encountered because of one supplier not being aware of the problems of the others.

So successful was this planning that the first run was made before schedule. Everyone involved agrees that the success is due to the pre-planning or engineering of the job.

The Champlain web-fed rotogravure printing equipment is comprised of a double reel carrier, four gravure printing units, cutter-creaser, stripper and delivery belt. All operations for the production of the cartons are performed on the press without need for further handling. In addition, tension, temperature and humidity are controlled.

Because the Champlain equipment performs each operation in succession, it is referred to as in-line equipment. Goebel cartons are printed at the rate of one million in five days, utilizing two shifts. It is estimated to take 8 to 10 hrs. to change the setup for printing one carton to that required for printing another.

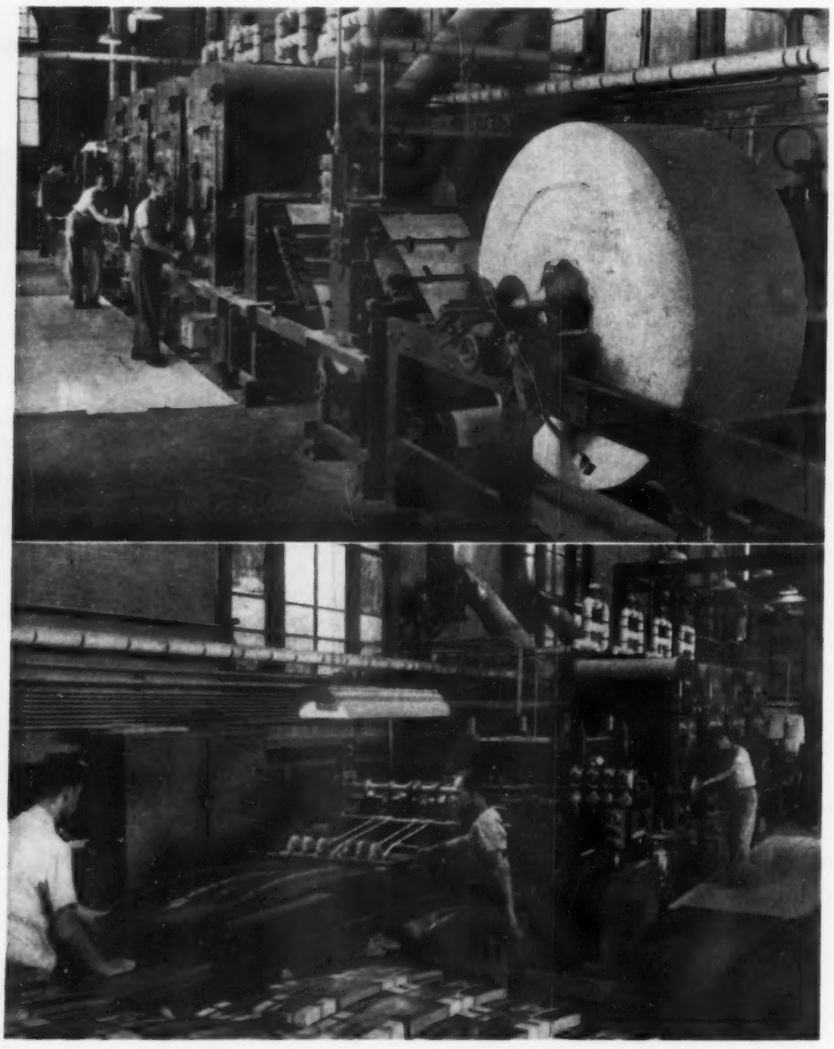
The Champlain reciprocating type cutter-creaser cuts and creases the printed web by stamping down on the web as it passes beneath the wood block or jig die located in a rigid reciprocating chase. A pull unit and compensator change web travel from continuous flow to an intermittent flow, enabling the reciprocating platen of the cutter-creaser to cut and crease as the web passes under it. Dies for this type cutter-creaser cost in the neighborhood of $100.

After cutting and creasing, rotating pins strip the waste from the die-cut cartons which then is pneumatically conveyed to a waste receiver. This pneumatic system eliminates manual handling of scrap. Stripped cartons are discharged in shingle fashion to a slow moving delivery belt. They are then stacked on skids or pallets and taken to machines which do the forming operations.

The board used for this carton is 0.020 in. bleached kraft with a natural kraft back of all virgin pulp. This is reported to be the first time rotogravure process printing has been used on high quality, bleached kraft board. Rotogravure is considered an excellent process for printing on board because thickness from side to side or from end to end is never the same. Each cell in a gravure cylinder carries a given amount of ink, controlled only by the depth of the cell. No change in pressure due to varying stock thicknesses can alter the quality of reproduction.

An unexpected advantage was gained by Goebel in the packaging operation. Frequently, ink from the carton rubs off on conveying and packaging machines and must be cleaned up from time to time. The rotogravure inks thus far have not presented this problem.

The success of this carton has led Goebel to start planning changes in other packages. From reactions reaching the carton and rotogravure equipment manufacturers, other merchandisers of foods sold in multiple-unit packages also are exploring the possibilities of the picture cartons.



(Photographs courtesy of Gaylord Container Corp.)

Top view shows the feed end of the Champlain rotogravure press installed at Gaylord Container Corp., St. Louis, Mo. This press is used in the production of four color take-home beer cartons. The large roll is 0.020 in. bleeched kraft board. The lower view is the delivery end of this same press showing the cutter-creaser, stripping mechanism and delivery belt. Approx. one million cartons are printed during a five day, two shift period. A wood block or jib locked in a rigid reciprocating chase cuts, creases and strips the web as it passes through the cutter-creaser unit. Stripped cartons are discharged in shingle fashion to a slow moving delivery belt. The waste is pneumatically conveyed to storage receptacles.

Memory Jogger Book

Methods for improving worker efficiency, loyalty and productivity, are described in a 48-page, shirt-pocket size memorandum book published monthly under the auspices of the Natl. Foremen's Institute, Inc. The book, Supervisor's Memory Jogger, also contains memorandum sheets for use by industrial supervisors. A removable plastic cover will be included for each subscription. Inquiries may be addressed to Natl. Foremen's Institute, Inc., Bureau of Business Practice, 100 Garfield Ave., New London, Conn.

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TYPE METAL HEADACHES

WITH

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FREE ANALYSIS SERVICE

We'll gladly send one of our envelopes for mailing to us a sample of your working supply of type metal for analysis.

With the report of our findings we will send our Plus Plan suggestions for keeping your type metal up to casting efficiency.

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TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

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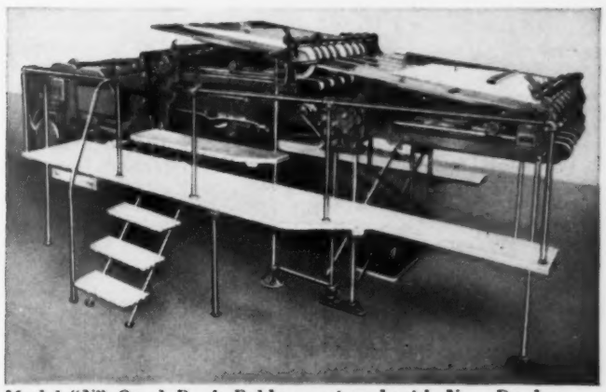
Adapting your Dexter Model "N" Quad Book Folder to run 128 pages



Model "N" Quad Book Folder equipped with New Duplex Attachment. Rear view showing two Cross Feeders.

Your Dexter Model "N" Quad, now set up to deliver four 16 page signatures, or two 32 page signatures made up of inserted 16's, at each cycle, can now be converted to practically double its present capacity.

With the New Duplex Attachment, it will deliver four *32* page closed head signatures, perforated head and foot — or, on certain lightweight stocks, two *64* page signatures (inserted *32*'s) — instead of its present two 32's.

To your present "N" Quad are added another cross continuous feeder and an extra first fold level. The *two* cross feeders in tandem arrangement feed the sheets, each to its separate conveyor, in timed relationship.

Accurate register is assured by slow-down provided at top and bottom first fold level to eliminate buckling at the front gauge. Independent register is provided for each sheet at front and sides.

From this point, the standard "N" Quad mechanism takes over and the folded 32 page product is eventually delivered, perforated head and foot, into separate packer boxes.

Your Model "N" Quad can still be operated as a standard single quad delivering the usual four 16 page signatures or two 32 page signatures (inserted 16's) at each operation.

The Duplex Attachment will not change the maximum and minimum sheet sizes now handled by your Model "N", but it *will* effect savings in folding costs and still further economies in subsequent gathering and sewing operations.

Dexter Folder Company

General Sales Offices

330 West 42nd Street, New York 36, N. Y.

Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis

Agents in principal foreign countries

BOOKS

A Survey of Graphic Arts Education

To determine the extent to which Graphic Arts education and training pervades the educational system of this country, the Education Council of the Graphic Arts Industry recently initiated a survey. The results of this project have been digested in a 50 page booklet issued under the heading *A Survey of Graphic Arts Education in Schools and Colleges of the United States.*

In the report it is shown that students in the Graphic Arts are taught at every level of education and in every type of school in this country. It is expected that the report will provide invaluable data to printers and educators in formulating policies and programs concerning Graphic Arts education.

The information appearing in the booklet was assembled by the School Survey Committee of the Education Council under the chairmanship of LeRoy Carman. Its purpose is explained in the foreward by Elmer J. Voigt, President of the Education Council. The introduction was written by Patrick F. Boughal, President, Intl. Graphic Arts Education Assoc., Inc.

Information is provided in the booklet to show the extent to which Graphic Arts processes and techniques are being used in schools today. There is also a directory of schools on all levels which teach Graphic Arts. These are accompanied by a listing of faculty members. Another section contains a listing of the most frequently used text books, manuals and other reference material in the schools.

Additional information on the survey report may be obtained by writing direct to the Education Council of the Graphic Arts Industry, Inc., 719 Fifteenth St., N.W., Washington 5, D. C.

Exclusive Use of Shell Casts Is Economical

By CHARLES R. McGUIRE*

**Mechanical Supt., Minneapolis (Minn.) Star and Tribune.* *Abstracted from address delivered before Stereotype Session, ANPA Mechanical Conference, Atlantic City, N. J., June 1954.*

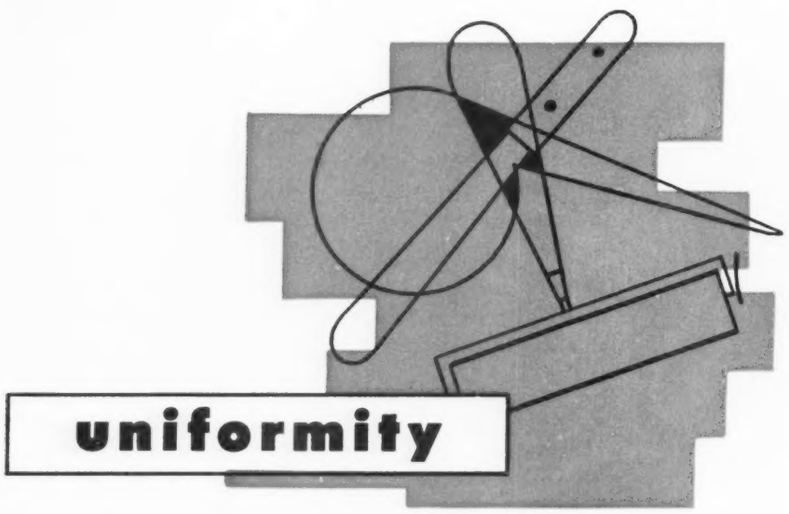
WE use shell cast exclusively in our Stereotype Department and we believe with shell casts we have a smoother and faster operation. We all know that the Stereotyper, on the molding end, likes nothing better than to have everything anchored down in the form, so all he has to do is plane the form down, mat it and send it through the molding machine. All our forms are sent to the Stereotype Department with shell casts.

The stereotype casts are anchored to the base with a special adhesive made expressly for us by the Minnesota Mining and Mfg. Co. Just a drop of this adhesive is placed on the back of the cast and it adheres to the base immediately. All zinc cuts are anchored to the base by tape which has adhesive qualities on both sides. The anchoring down of all casts and cuts is the responsibility of the Composing room.

The Envelope System

We use what we call an envelope system between the Dispatch, Stereotype and Composing departments. This system also has a bearing on shell casts over type high in our plant. All ad copy goes through our Dispatch Department from the advertiser or advertising agency. The copy is given a number and the job mats for the ad are numbered on the back of the mat the same as the ad copy. If the mat has been cast before, the previous number is erased and a new number to correspond with the ad number is marked on the back of the mat. At no time is there more than one ad number on the back of any mat delivered to the Stereotype Department.

The man handling the ad copy in the Dispatch Department places the job mats for the ad in a large 12 in. by 10 in. manila envelope and delivers the envelope to the rack in the Stereotype Department. If the mat to be cast is larger than 12 in. by 10 in., the envelope is attached to the mat with a paper clip, and sent to the Stereotype Department in that manner. The envelope has the advertiser's name, the number of mats enclosed and the ad number on it. Each envelope has ruling space on one side



INKS OF UNVARYING COLOR
INKS OF CONSISTENT BODY
INKS OF EVEN TACK

THESE are the superior, uniform inks of Sinclair and Valentine. No matter what your printing stock—whether it's a coated paper, Kraft, plastic or any other—there is a Sinclair and Valentine ink made especially for your purpose, an ink whose changeless quality is your guarantee of consistent results on every job. This dependable performance not only means a more economical press operation, but it also assures you and your customers of superior quality reproductions.

Sinclair and Valentine Co.
Main Office and Factory: 611 West 129th St., New York 27, N. Y.

OVER 35 BRANCH OFFICES

S&V

SERVICE FROM COAST TO COAST

to take care of 25 advertisers, but only one advertiser uses the envelope at one time.

After casting, the Stereotype Department returns mats and casts to the envelope and delivers to job rack in the Composing Room.

Casts Centralized in Job Rack

When the ad man in composing is ready to insert the casts in the ad he is setting, he goes to the job rack, and pulls out the numbered envelope corresponding with his marked copy ad number, with all cuts and casts enclosed.

The Dispatch Department is responsible for picking up all envelopes with mats enclosed after the ad is set and proofed. They cross off the advertiser's name and all numbers, and return mats to the advertiser or to the mat storage in Dispatch. We use hundreds of envelopes daily between Dispatch, Stereotype and Composing with nary a lost cast or mat.

Flexibility of System

Now, you can readily see or imagine trying to enclose 25 or more type-high casts in a 12 in. by 10 in. envelope. If we were using type-high exclusively we would have to go back to the days before we used this envelope system, when we used to dump all casts on a table in Composing. The ad man would have to go to this table and mull over two or three hundred casts to find the cuts for the ad that he was setting. This is wasteful time in the Composing ad room. I would say, offhand, we would also have to increase our Stereotype force by six or eight situations, in fact, we would be forced to an exclusive job department, where now the men are rotated.

We have two men in our job department days, and one at night. These men are called out of the job department at times to help on editions. We have the use of all stereotypers if we need them between editions on job work.

We would also need more equipment in the Stereotype Department to handle type high exclusively, namely trimmers, jigsaws, circular saws and water cooled job casting boxes. I believe I am safe in saying that we have a more economical operation in the Stereotype Department by the use of shell casts.

In Composing, all sincs are based on 0.853 in. stereotype base, including halftones. Any type set in an ad is matted, cast and shaved zinc high and floated in place in a very short time. We do the same when stereotype cuts are used with zinc. We use monotype 0.763 in. low base for all shell casts otherwise. On last minute corrections the ad man carries the plate to stereotype. In less than a minute a stereotyper can route a hole for correction while the ad man waits. This is the practice several times daily.

He's No Atlas

Using type high casts, one ad man could not carry a page or half page cast back to stereotype. The cast would have to be placed on a truck and wheeled. The ad man would then return to composing and wait for stereotyper to return the cast. We would not be able to use our envelope system, nor would the stereotypers be able to carry many of the casts back to the ad alley. It would mean that they must slide or lift the casts to a truck and wheel them to the ad alley. Someone in the ad room would have to follow through to see that casts were routed to the proper station in the ad room.

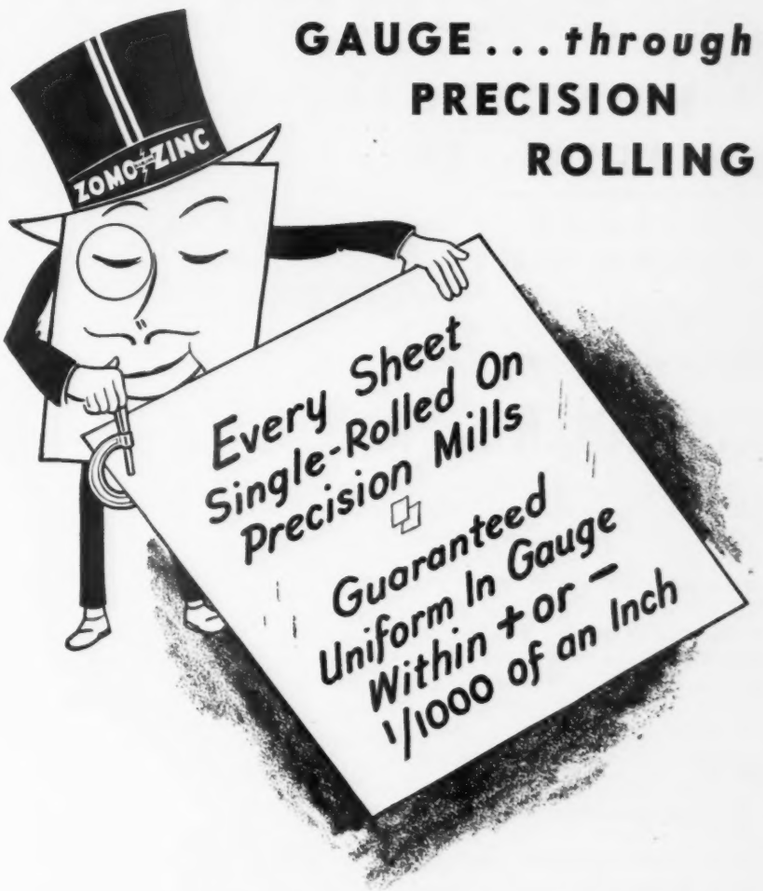
Recent Equipment Report

Miehle Press Installations

The following installations of Miehle presses have been reported by Miehle Printing Press & Mfg. Co. *V-50 Verticals:* Commercial Printing Co., Rome, Ga.; Bismarck Tribune Co., Bismarck, N. D.; Peterson Printing Craftsmen, Inc., Joliet, Ill.; Gazette Printing Co., Inc., Northampton, Mass.; Color Craft Printers, Inc., Manitowoc, Wis.; Don Scarbrough, Georgetown, Tex.; Leon Johnson, Printer, Montgomery, Ala.; The Webb Co., Washington, D. C.; Missouri Baptist General Assoc., Jefferson City, Mo.; Allison Coupon Co., Inc., Indianapolis, Ind.; Columbia Records, Inc., Bridgeport, Conn.; Graphic Calculator Co., Chicago; The Newcomen Publications in North America, West Chester, Pa.; Sandt Printing Co., Easton, Pa.; Consolidated Stamp Mfg. Co., Inc., Spring Valley, N. Y.; Watkins & Co., Pittsburgh, Pa.; Glaser Printing Co., New York, N. Y.; Waller Printing Co., Dallas, Tex.; Morris Printing Co., Waterloo, Ia.; Burnette Printing Co., Parsons, Kan.; Kaeser & Blair, Inc., Cincinnati, O.; Spencer Printing Co., Richmond, Va.;

UNIFORM

GAUGE . . . through PRECISION ROLLING



Uniform thickness is just one of the advantages of ZOMO ELECTRIC ZINC and A - Z ALLOY. Special attention is given every step to produce the finest plates for the engravers' exacting requirements. Specify these metals through your regular supplier.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

Rosary Press, Inc., Somerset, O.; Recorder Press Co., Inc., Albion, Mich.; Bigelow Printing Co., Roxbury, Mass.; Highland Academy, Fountain Head, Tenn.; Charles F. Herbstreith Co., Nutley, N. J.; Munro Press, Inc., New York, N. Y.; Austin Print Works Co., Akron, O.; Allied Printing Co., Dallas, Tex.; and Morton Litho & Printing Co., San Antonio, Tex.

No. 76 Cutter and Creaser: U. S. Printing & Lithograph Co., Mineola, L. I., N. Y. *No. 76 Four-Color Offset:* I. S. Berlin Press, Chicago. *No. 70 Cutter and Creaser:* Kellogg Company, Battle Creek, Mich. *No. 49 Single Color Offset:* Masura Offset Co., Dearborn, Mich. *No. 76 Single Color Offset:* Rand McNally & Co., Skokie, Ill. *No. 41 Two-Color Offset:* Superior Match Co., Chicago; and Sleepeck Offset Corp., Chicago.

Joint Iowa-Illinois Conference Proposed

THE twenty-seventh annual meeting of the Iowa Newspaper Mechanical Conference held at Clinton, Ia., May 22 and 23 was attended as usual not only by newspaper executives but also by executives from neighboring states of Illinois, Wisconsin, Minnesota, South Dakota, Nebraska, Missouri, and Kansas.

Proposes Joint Meeting

Leo B. Sullivan, Marshalltown, Ia., retiring officer of the Iowa Newspaper Mechanical Conference, made a stirring appeal to the members to study the possibilities for a joint Iowa-Illinois Newspaper Mechanical Conference, each with its own officers and organization, merely meeting in a joint conference similar to the Missouri-Kansas conference.

Press-Stereo Session

The panel system, believed to have originated with the Iowa Newspaper Mechanical Conference, reached a new high in its operation. L. J. (Mike) Mills, chairman of the Press-Stereotype session, invited manufacturers and suppliers of press and stereotyping machinery and materials to furnish written advices upon developments and current problems encountered among the newspapers in their particular fields. The material gathered from all sources presented by the chairman and L. Tommy Caldwell, Cedar Rapids (Ia.) and Charles Robinson, Des Moines (Ia.) on stereotyping subjects; also Cy Dale, Muscatine (Ia.) and Pete Ertz, Burlington (Ia.), in press topics. Press and stereotype discussions being alternated, with most of the items new and highly interesting. This session ran well into overtime, considered among the best press-stereo session held anywhere.

Linecasting Machinists

Similarly, the Linecasting Machinists Session panel members composed of Mergenthaler, Intertype, Ludlow and Mohr Lino-Saw representatives, assisted by M. F. (Ding) Dingham of Cedar Rapids (Ia.) covered the subjects pertinent to their operations thoroughly, with an overtime session. Bert J. DuSold, Mason City (Ia.) was chairman.

Composing Room

Howard W. Lee, Chairman of the Composing Room Session, was assisted by Johnny Barron, of LaSalle (Ill.) *Tribune*, and William G. Dorriss of Des Moines (Ia.) Discussions included the cost for changing the column width, and the requirements involved. Advantages of the nine column wide newspaper page and its importance to the future of newspaper production with views expressed that it is merely a matter of time when the wider page, produced to the capacities of heavy newspaper printing machinery will be in general use. Bill Dorriss explained procedure and methods to establish deadlines, and its merit with production cost. The question and answer period indicated careful preparation of discussions of current problems and practices prevailing among the printers, with interesting discussions.

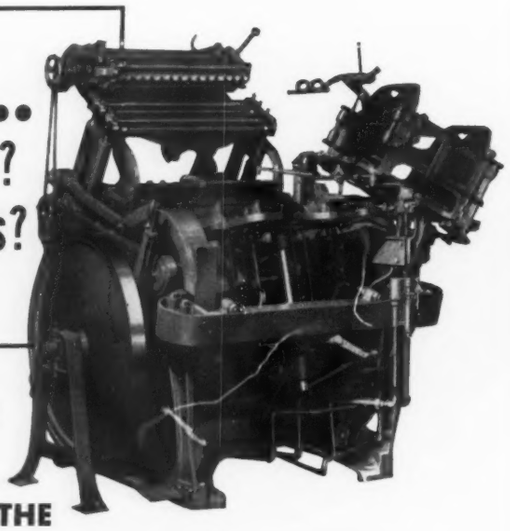
Photoengraving Session

Roger Hospers, chairman of the Photoengravers session, presented Charles P. Ramsdel, jr., of the Eastman Kodak Co., who gave an interesting talk, with demonstrations of the Kodak Tone-Line Process and the latest methods on Pre-Sensitized Plates. Pat Kearns described the methods used in etching magnesium. Panel members of the Photoengraving session included Larry Nebbergall, Glen Holcomb, and Clayton Weber conducting the question and answer period.

Officers Elected

Officers elected at the closing session of the Conference for the ensuing year are: Bert J. DuSold, *Globe-Gazette*, Mason City, President; William D. McCauley,

DO YOU...
Print?...Stamp?
Blank?...Emboss?
...Die Cut?



PERFORM THESE SPECIALIZED OPERATIONS ON THE

CHANDLER & PRICE SUPER HEAVY DUTY AUTOMATIC PRESS

Truly automatic, including continuous feeding from hopper that permits loading while press is running (any stock from 13-lb. bond to heaviest cardboard 3¼" x 5" up to 15¹⁵⁄₁₆" x 23¼")...

Sufficient impression strength for handling the heaviest forms, and for scoring, creasing, embossing and die-cutting...rectangular, round, irregular shapes, greeting cards, photo-mounts, cartons, book cases, and covers.

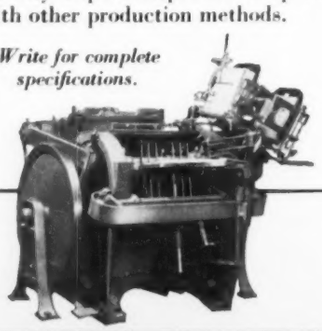
All operating controls reached from FRONT of press...

Delivery at FRONT, where operator can easily check ink coverage or numbering machines (also makes slip-sheeting entirely practicable)...

Automatic throw-off of press if sheet fails to deliver...

There is no other press comparable to the C & P Super Heavy Duty. It is a profitable investment for commercial printers, bookbinders, finishing plants and specialty producers since it frequently triples output as compared with other production methods.

Write for complete specifications.



AVAILABLE WITHOUT INKING MECHANISM

If used only for cutting, creasing, scoring and die-cutting, these presses can be furnished without inking mechanism.

THE CHANDLER AND PRICE COMPANY
6000 Carnegie Avenue • Cleveland 3, Ohio

Mason City, Vice Pres.; M. L. Dingman, *Gazette*, Cedar Rapids, Second Vice Pres.; Paul F. Kamler, *Herald*, Clinton, elected to his twenty-sixth consecutive term as Secretary-Treasurer.

The Officers elected for the Iowa Linecasting Machinists Assoc. are: M. L. Dingman, President; George Kriz, *Press-Citizen*, Iowa City, Vice Pres., and Bert J. DuSold, Secretary-Treasurer.

Discussion favored encouraging greater participation among the Iowa weeklies at the Mechanical Conference.

Kamler Receives Travel Case

The Conference banquet was held on Saturday night. Address of Welcome was delivered by the Clinton Mayor, Don R. Allison. Invocation was given by Harry R. Speer, Clinton *Herald;* Master of Ceremonies was Duane F. Sodeman also of the Clinton *Herald*. Paul F. Kamler was presented with a handsome traveling case by John Notman, publisher of the *Herald* at the banquet.

The Supplymen's Party under the direction of William M. Brennan, Tingue-Brown & Co., followed the banquet with music, dancing and refreshments.

Accidents Prevented by Locking Switch Boxes

A 10 point plan to eliminate a major hazard confronting industrial maintenance men has been advanced by Samuel Stahl, President of the Master Lock Co. The plan, which will enable maintenance men to lock out electric switch boxes, is based on a recent National Safety Council technical data sheet concerning methods of preventing such accidents.

The danger stems from the fact that switch boxes control power to electrically driven machines. Thus, the possibility exists of a control switch, physically remote from a machine, being turned on while a maintenance man is repairing that machine causing either injury or possibly death.

NSC reports that such methods as posting warning signs or removing fuses have generally proved ineffective. They assert that padlocking switch boxes "is the only positive protection measure." The following steps are recommended in establishing foolproof electric switch box safety systems:

(1.) Make each worker responsible for his own safety by providing him with his own padlock, either combination or key-type.

(2.) Issue only one key for each lock. The supervisor, however, should keep a master list of key numbers, the extra key to each lock and extra copies of combinations in his department. But the extra keys should never be loaned out for any reason.

(3.) If a supervisor uses the extra key during emergencies, the old lock and extra key should be destroyed and replaced. This precaution eliminates the possibility of the original key turning up and removing the safety padlock at the wrong time.

(4.) Check to see that no two locks and keys are the same. Best insurance against duplicate locks and keys is to purchase padlocks made by a reputable manufacturer.

(5.) The company should purchase all padlocks for its employees, rather than let them supply their own. This insures high quality padlocks such as the laminated, pin-tumbler type, that cannot be opened or broken.

(6.) Establish a careful clearance policy when two or more workers, or departments are involved.

(7.) Require each man to attach his own padlock to a switch control, even though it is already locked.

(8.) Impress upon each employee that even though someone else has already locked the controls, he will not be protected unless he attaches his own padlock.

(9.) Prevent men going off a job at the end of a shift from removing their locks until those on the next shift have attached their locks.

(10.) Identifying individual padlocks is suggested in large plants where the controls may be some distance from the operation under repair.

Appointment of James B. Moore as Director of Public Relations for Fairchild Camera & Instrument Corp. has been announced by Pres. John H. Clough. Prior to his recall to active naval service in 1952, Moore spent 14 years as a newspaperman in Florida. He is former managing editor of the Coral Gables (Fla.) *Riviera-Times* and the Miami Beach (Fla.) *Daily Sun*, and is a graduate of the West Virginia University School of Journalism.

Gutenberg's partner, Fust, was tried as a sorcerer because of the unbelievable uniformity of the firm's printed Bibles. In the dawn of printing history, makeready was still done by guesswork. Often it took over a day to stretch the parchment "tympans" on the press.

Gutenberg and partners Fust and Schoeffer

Printer's mark used in Gutenberg's shop is present-day symbol of International Association of Printing House Craftsmen.

When printing was Black Magic, makeready was a mystery, too

There's no mystery to modern high-fidelity printing . . . it starts with Cromwell HIGH-FIDELITY TYMPAN specially prepared

Known everywhere for:

- more impressions, fewer changes
- extra-hardness, extra-toughness
- uniform texture, free from high and low spots
- absolute resistance to oil, moisture, cleaning solvents
- lowest cost in the long run . . . even for short runs

A sample is our best salesman. Ask for working samples for your press—letterpress or offset.

Unconditionally guaranteed. Clipped, scored and trimmed for your press make. Ask your Cromwell jobber.

Cromwell PAPER COMPANY

Cromwell Paper Company
4801 South Whipple Street • Chicago 32, Ill.
Send working samples of Cromwell Special Tympan to me without charge or obligation.

Name_____

Firm Address_____

City_____ Zone____ State_____

Press Make_____ Top Sheet Size_____

Check: ☐ Square Cut ☐ Clipped ☐ Scored

Working Plan for Planning-Dispatch in Newspaper Plant

By ELMER F. FULLER*

**Production Coordinator, Cleveland Press. Abstract of address delivered before ANPA Mechanical Conference, Atlantic City, N. J., June 1954.*

THE proper operation of your dispatch or service department on a production basis will pay for itself by the help it gives to your mechanical and advertising departments.

With the rapid growth of business and increasing production problems the Dispatch Department has now increased to probably the most important in maintaining efficiency and economy of operation of the newspaper.

At the Cleveland *Press*, the Dispatch or Service Department as we call it, is being established as a production control office with service to the advertiser and advertising departments making it the "nerve center" of the paper.

Control of Department

(1) The Dispatch Department should be under control of the Production Office, to center responsibility, for better control and more efficient operation.

Because of higher production costs, competition, more advertising, printing more pages than ever before, and the fact that many newspapers today are operating at full capacity of their mechanical equipment, it is evident that the newspaper business is changing rapidly. The newspaper must fight to maintain its flexibility as a news and advertising medium.

Certainly a newspaper has lost some of its flexibility when all of its mechanical equipment is used to full capacity; when costs begin to skyrocket after a certain number of pages have been reached and the "law of diminishing returns" goes to work; and when the amount of color advertising you could run is limited by press equipment.

For these reasons, the Dispatch or Service Department becomes the clearing house for all the complaints, details and leg work and other functions of producing a newspaper.

Therefore, the Dispatch office must have the freedom and flexibility in setting its action in the right direction at the right time.

(*Continued on Page 82*)

Miehle Press at Standard Litho — A Miehle No. 49 Two Color Offset Press was recently installed at Standard Lithograph Co., Los Angeles. Features of the press include a single impression cylinder workable for both color units. Pictured (left to right) are Jack Wright, recently appointed superintendent of the firm; Leo Quick, partner; Lyle Hoffman, Sales Mgr., and Helen and Lawrence Owen, partners.

SPEED PRODUCTION WITH RICHARDS!

- SAWS
- ROUTERS
- MORTISERS

For further information on these and other **RICHARDS EQUIPMENT,** *Saws — Routers — Mortisers, please write*

J. A. RICHARDS COMPANY

903 N. PITCHER ST. · KALAMAZOO, MICHIGAN

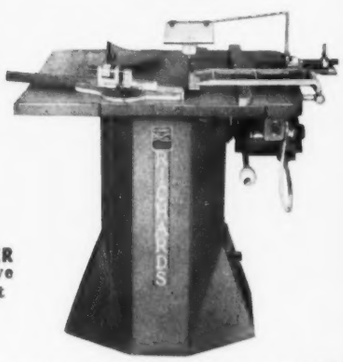
NEW MODEL

Code: MI-B

ENCLOSED CURVED PLATE ROUTER
with new close coupled single belt drive
Ball bearing construction throughout

Code: PMRS

'MULTIFORM' RADIAL ROUTER
For Straightline and Fine Detail Routing
Patented Straightline Control Feature



Code: EST-27x36 Table
ESST-32x42 Table

'ELECTROMATIC' SAW TRIMMER
For Stereotypers, Electrotypers, Photoengravers

The Daily Tribune picks KEMP STEREO POT for dependable operation

Kemp Stereo type Pot in operation at The Daily Tribune, Royal Oak, Mich.

No pot breakage, less dross formation with Kemp equipment

Its stereo pot is a vital part of the Royal Oak, Michigan, Daily Tribune's operation. To minimize the danger of a costly breakdown, the Tribune chose a Kemp Stereo Pot.

Kemp has justified its purchase at the Tribune. Danger of pot breakage has practically been eliminated; dross formation has been reduced. And in addition, Kemp immersion heating units eliminate inefficient external burners—assure high melting rates, rapid temperature recovery after adding cold material, and save up to 40% on fuel. No wonder the Tribune, like all other Kemp users, is pleased with Kemp performance!

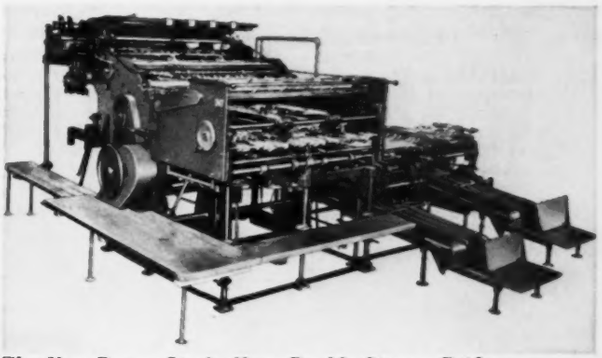
How can Kemp save *you* time and money? For help on any melting problems, write to Kemp today. For technical information and facts on how we can help you with your melting problems, write:

THE C. M. KEMP MFG. CO., 405 E. Oliver Street., Baltimore 2, Md.

KEMP OF BALTIMORE

IMMERSION MELTING POTS
CARBURETORS • BURNERS • FIRE CHECKS
ATMOSPHERE & INERT GAS GENERATORS
ADSORPTIVE DRYERS • SINGEING EQUIPMENT
METAL MELTING UNITS • SPECIAL EQUIPMENT

Speed up the folding of your publication and book work



The New Dexter Single Sheet Double Sixteen Folder

Covering just about the entire range of magazine and book work, and handling sheets of maximum size 44 x 58", minimum 25 x 36", this new Dexter machine produces 16 and 32 page signatures of page sizes from 11 x 14½" to as small as 6¼ x 9".

Recommended speed is 4,500 cycles per hour. Actual production will depend on kind of paper and quality of work desired.

	Page size *Three right angle folds*	
At each cycle the machine delivers two 16 page signatures or one 32 page signature made up of inserted 16's.	Maximum 11 x 14½"	Minimum 6¼ x 9".

These signatures are the same impositions as the old type Dexter Double Sixteen.

	Two right angle folds with third fold parallel to second fold	
This signature also is the same imposition as the old type Dexter Double Sixteen equipped with parallel 16 attachment.	7¼ x 22"	4½ x 12½"

Using perforator provided, two-up signatures may be torn apart to yield final page sizes from 7¼ x 11" maximum to 4½ x 6¼" minimum.

Equipment includes slitter, perforator, headers-up, Cross combing feeder, stacker deliveries and motorized variable speed drive.

Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

Working Plan

(Continued from Page 80)

Functions of Dispatch

(2) The purpose of the Dispatch Department is to plan, control, direct and maintain the flow of all advertising copy for the efficient operation of the mechanical departments and for satisfactory service to advertisers.

I will outline to you the operation of the Service Department at the *Press*, and, of course, we are attempting to follow this principle very closely..

As the name implies, we are establishing a "service center" for the newspaper and the advertiser. With the "Desk" staff service-minded, they not only wish to help the mechanical departments and the salesmen, they become the liaison men between the paper and the advertiser to effectively sell service, policies and the best methods of aiding the mechanical departments.

When troubles with an advertiser or agency continue to persist—poor or late copy, insufficient information, or in general a better way to send in copy — a personal visit to discuss his problems, ways and means to help him (and, incidentally, help ourselves) usually gets excellent results.

The Service Department delivers proofs, tearsheets and art, picks up copy, art and merchandise from stores and agencies, picks up printing materials from the other papers in Cleveland.

The "desk" staff writes the necessary insertion orders on copy from other than our own salesmen and enters all ads on the control sheet for insertion on the proper day. The copy is stamped for time proofs are needed and also listed on "must" proof sheet furnished to the Composing Room. All art work is listed on art record form and is then marked for time cuts are due in the Composing Room.

As proofs are received from the Composing Room, they are checked out with the time and date on the main control record under "first proof", second, third or fourth proof.

The desk men operate the phone switch board for contact with advertisers, and salesmen, taking corrections, checking in and out of revised proofs.

With ROP color growing by leaps and bounds, the Service Department, working with established deadlines and schedules is handling all printing materials on full color and spot color on editorial and advertising.

More Deadline Conscious

One of the greatest services to the mechanical departments is the maintenance of established deadlines. Because we wish to maintain our flexibility, we have become more deadline conscious. The desk men usually know the chronic offenders of deadlines and we make every effort to keep them "on times" with copy. The flexibility gained by the observance of deadlines usually takes care of the occasional late copy advertiser.

With the cooperation of our department stores, special proof schedules were worked out, which definitely aided our Composing Room and improved our service to them. Coordination of our pickup and delivery service with the Composing Room operation also give improved service.

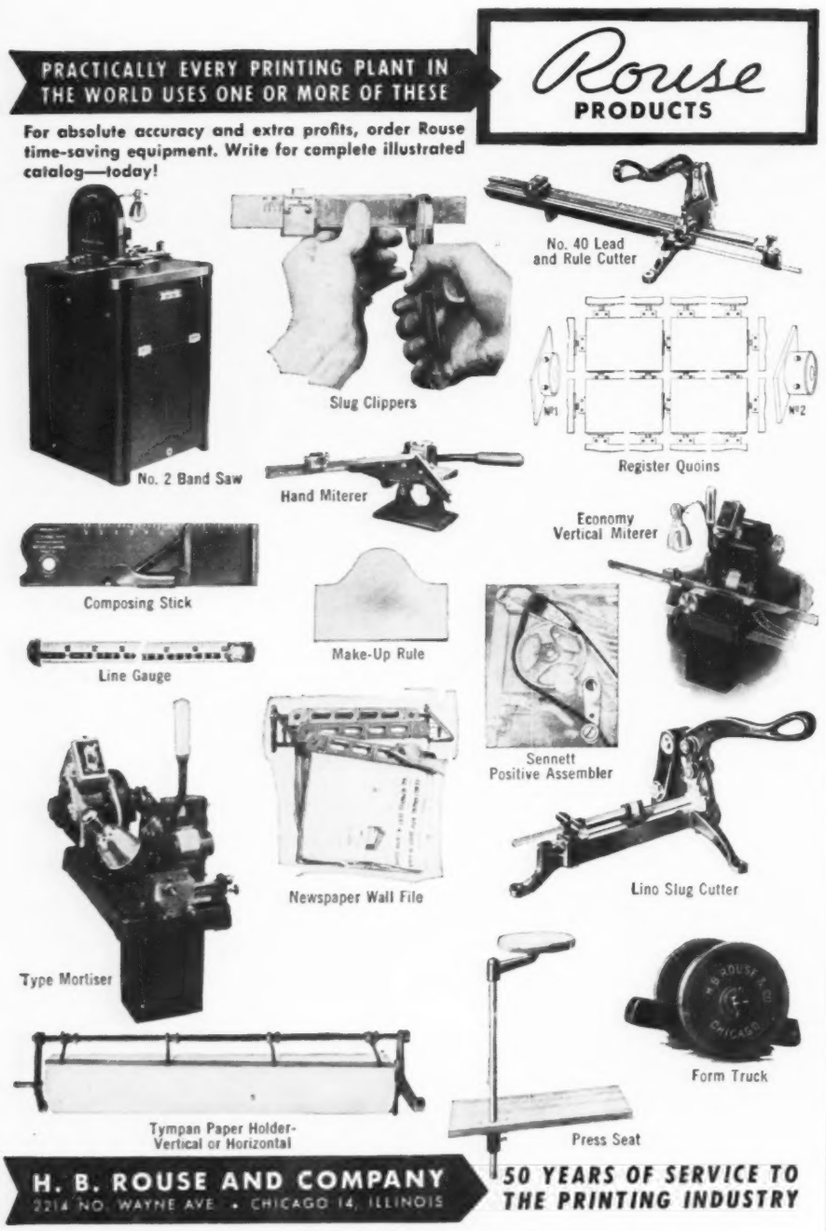
Charges

We charge the advertiser for composition on the second proof or succeeding proofs. We furnish free cuts to advertisers, but if they have a cut made over because of change, they are charged for it. These charges, plus opening page charges are maintained by the Service Department.

Our Cut Department, which operates in conjunction with our Service Desk has a fairly elaborate filing system for cuts, electros, stereo casts and mats. All copy is channeled through the Cut Department for pickups of signature cuts and others that run from time to time. Although our Cut Department system is being revised at present, we reduce engraving costs, and the work load on the Engraving and Stereotype rooms. We keep all cuts for a period of six months, with a few, such as food chains up to one year.

The Cut Department identifies all cuts coming from the Engraving room and releases them to the composing room. They also dispatch mats, plastics and electros to Stereotype for casting and mounting, and the delivery of the same to the Composing Room.

Our Service Department is in operation from 5 a.m. to 12 midnight, six days. The Cut Department is in operation from 7 a.m. to 4 a.m. We have 21 people in the Service and Cut Department, eight of whom are copy boys.


PRACTICALLY EVERY PRINTING PLANT IN THE WORLD USES ONE OR MORE OF THESE
Rouse PRODUCTS
For absolute accuracy and extra profits, order Rouse time-saving equipment. Write for complete illustrated catalog—today!
No. 40 Lead and Rule Cutter
Slug Clippers
No. 2 Band Saw
Register Quoins
Hand Miterer
Economy Vertical Miterer
Composing Stick
Make-Up Rule
Line Gauge
Sennett Positive Assembler
Newspaper Wall File
Lino Slug Cutter
Type Mortiser
Form Truck
Tympan Paper Holder-Vertical or Horizontal
Press Seat
H. B. ROUSE AND COMPANY
2214 NO. WAYNE AVE. • CHICAGO 14, ILLINOIS
50 YEARS OF SERVICE TO THE PRINTING INDUSTRY

Dispatch Dept. Spots Production Problems

(3) Use your Dispatch or Service Department to spot production bottlenecks.

It is particularly advisable for a Production Manager to spend time in the Dispatch Department if he is sincere in determining where his production troubles are. Complaints of all nature arrive here sooner or later – production lag or bottleneck, poor composition, engravings, stereotyping and printing. Slow proof service, inefficient service to the advertiser. Poor copy—both from the salesmen and the advertisers – plus many other headaches which a good production man can straighten out with the cooperation of all departments.

Perhaps the most glaring example that was first noticeable in our Service Department was the production lag caused when layouts were needed in our Art Department to mechanical departments.

Photostats Solved Lag Problem

To alleviate the copy lag, a photostat machine was installed eight months ago and by the use of the latest and inexpensive positive print method, we now photostat all layouts that will be tied up in the Art Department for art work. It was evident some method was needed to speed the flow of copy from Art Department to mechanical departments.

Art Dept. Works on Art

By switching photostat papers (usually a 2 or 3 minute operation) we give the regular negative photostat for reversing type for art pastedowns and reverse cuts. With the art department making complete art layouts with reverse type in place, we have saved considerable time and work in reversing and stripping in the engraving room.

We have also offered photostat service to all departments at the Cleveland *Press*. Editorial Art Department uses photostats for art purposes. Editorial itself uses photostats many ways, particularly for promotion. We recently completed photostats for pasteup into a 5 by 8 ft. promotion piece on a national Spelling Contest. Photostats are extremely popular with advertising and circulation promotion. Our Classified Advertising Department always had in the past a photostat bill from $60 to $200 per month. They now use our photostat service completely. Even our business office has found photostats particularly useful on reproduction of business forms.

The savings effected on the same amount of extra service work, if sent to outside sources would pay for the machine and its operation in approximately four months' time.

Although this extra service is important, I want to make clear, it remains secondary to photostats for art and mechanical production.

The Photostat Room is operated by two junior clerks under the control of the Service Department.

(4) Keep the basic controls as simple and effective as possible.

Given an efficient mechanical setup, keep the system as simple and effective as possible.

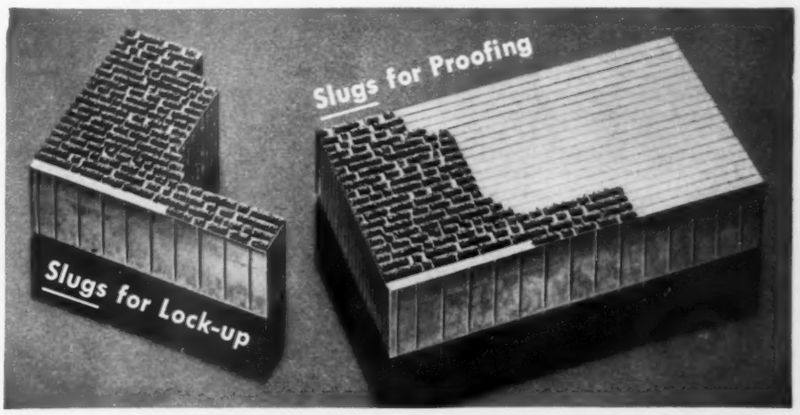
Keeping close control of copy flow at all times, carefully planning to eliminate lost motion, to center responsibility, to make information quickly available and to provide automatic checking and production follow-through. Our present and future planning is designed to spare the Advertising Department as much mechanical detail as possible, so that the salesmen can devote their time to selling, and its advantages in savings in saving mechanical department time are obvious.

Vandercook Equipment for RIT

Equipment for the Vandercook Pre-Press System of makeready was recently installed in the Dept. of Printing, Rochester Institute of Technology, by Vandercook & Sons, Inc. The system is designed for achieving accuracy in printing height as well as in the dimensions affecting lockup, position and register. The equipment includes the metal base for mounting either original or duplicate letterpress printing plates. Known as Lite Base, it is cast from Linotype metal in an electric caster which is provided with an aluminum cored mold.

A Hammond G-4 Glider Trim-O-Saw, installed at RIT by Hammond Machinery Builders, Inc., is used for cutting the base to desired size. The metal base is planed on a Vandercook 11 Block Leveller. The height of the base under printing pressure is checked for correctness on a Vandercook Plate Gauge.

The plate is mounted to the base by means of heat and pressure in a hydraulic press. Other Vandercook equipment for RIT included a plate mounting gauge for positioning of plates on Lite-Base when registering for color, a test press for checking the accuracy of the form before it goes to press and a makeup gauge for accurately making up forms.



Mohr makes the job **EASIER**

■ **Today, with the growth of offset, many composing rooms deliver reproduction proofs as often as they deliver sawed type slugs for lock-up.**

No matter which is the end product the job is easier on a linecasting machine equipped with a Mohr Saw. When producing run-arounds or other odd measure composition for letterpress lockup a single setting of the Mohr dial is all that is required to automatically saw slugs to precise pica, point or split-point measure.

Reproduction proofs of similar composition can be made more efficiently if the slugs are unsawed, thus facilitating lock-up. In this case the Mohr saw blade is easily disengaged. All slugs are then cast to the full set measure, but the operator has all the advantages of Mohr Measure Control. The single dial adjustment sets both the lefthand vise jaw and the assembler slide.

The Mohr system provides the flexibility to either saw slugs automatically or set precise measure on unsawed slugs—as the need arises.

Write for the complete story on the Mohr Saw

MOHR LINO-SAW COMPANY

8015 N. Ridgeway Avenue • Skokie, Illinois

9 Col. Newspaper Is Considered By Larger Papers

By ANDREW R. MERVICK*

**Production Manager, Pittsburgh (Pa.) Sun-Telegraph. Abstract of address delivered before Atlantic City (N. J.) ANPA Mechanical Conference, June 1954.*

At the Pittsburgh (Pa.) *Sun-Telegraph*, we made an exhaustive study comparing our present 8 col. page versus the 9 col. page and its possible savings. The 9 col. newspaper page can reduce costs substantially. I would suggest that you take your previous years' press runs and translate them into 9 col. page runs. Consider all the compensating factors based on the use of 9 col. pages, including the decrease in the number of press units necessary. The savings would start in the composing room and follow through your complete mechanical operation, and I think you will be surprised at the amount of savings to be realized.

We have installed new press equipment within the last six weeks which is designed to take from 56 to 68 in. rolls and it would be our intention when going to 9 col. papers to print on a 68 in. web, using a make-up of a 11½ pica columns with 3 pt. column rules. When installing our presses we anticipated this possibility and are presently running with press rollers 69 in. wide, undercut ⅛ in. for our present 61 in. paper size so that in the future we can cut back ¼ in. across the portion of the rollers which have not been undercut for 68 in. paper.

The accounting method used by us to establish these savings was to analyze the issues of a representative period (month or year) to determine the number of times when a 9 col. product would

(a) reduce the number of press units required
(b) eliminate the necessity of an advance run
(c) reduce mailroom manning if contract requires additional men when pages exceed a certain number
(d) reduce trucking cost if contract requires the use of additional equipment when pages exceed a certain number
(e) eliminate the need for a collect run.

Translate the above items into the number of work shifts saved for pressmen, paper handlers, mailers, drivers, roll truck expense, advance run handlers, etc. and arrive at a value.

The weight of newsprint used during the test period, divided by the number of pages produced, will give the weight of each 8 col. page. The number of square inches in the present 8 col. page will provide the ratio of the 9 col. page to the 8 col. page. This ratio applied to the weight of one 8 col. page will provide the weight of one 9 col. page. Multiply the weight of one 9 col. page by the number of pages which your analysis of issues indicated would be needed for the 9 col. product to determine the amount of newsprint required to produce the 9 col. pages. The difference between this amount and the actual amount of newsprint used will represent the newsprint saving.

The ratio of the new roll size to the old roll size when applied to the weight of one roll will provide the weight of one new roll size. This divided into the weight of newsprint required will provide the number of rolls required. From this figure, the saving in roll handling expense and in printing waste may be determined.

In making the analysis of issues it is necessary to have constant reference to the news content of each issue. For instance, a 48 page paper which was open might be printed in a 40 page paper, whereas if it were tight, this would not be possible and no printing units would be saved.

The 9 col. newspaper also has merit because it can be done on present mechanical equipment. It has particular added favorable factors at this time because of the number of newspapers running 4 color advertising and the substantial number considering running color advertising in the near future.

When using a 9 col. page, you will often save sufficient space to make another unit available for color, or, in many cases it will avoid the necessity of a collect or an advanced run.

Analysis of Potential Savings

I will enumerate the reasons and the possible savings which would accrue in running 9 col. pages.

1. Less pages to make up in the composing room.

Why We Bet Our Life . . .
1954 WOULD BE THE GRAPHIC ARTS BEST YEAR EVER!!

MONEY—so plentiful the savings banks deposits keep on rising. (Note—and now the government is making money more plentiful.)

UNEMPLOYMENT—people out of work in '54—only a fraction of previous years when we had much smaller population—when times were considered good. And, today unemployment compensation keeps the few unemployed eating without dipping into their savings. Watch unemployment drop this fall (sure as shooting).

RUSSIA—INDO CHINA—KOREA situation sells newspapers, but nothing untoward has happened, and pitiless publicity today throughout the world will (methinks) make the Machiavelian machinations of the war mongers die a-borning, their conquests by stealth are over.

AMERICA—at the adolescent age where it will grow like Iowa corn—you can see it growing—billions being spent to take care of more business in the next ten years than the previous thirty—all of which requires tremendous more printing (and most printing has to be FOLDED), and the BaumFolder Gold-Mine, on pay-for-itself terms—is yours for the asking. Which size may we ship?

RUSSELL ERNEST BAUM, INC.
615 CHESTNUT STREET • PHILADELPHIA 6, PA.

14 x 20 . . . 17 x 22 . . . 22 x 28 . . . 25 x 38 . . . 30 x 46

Specializing in Makeready Reduction

VANDERCOOK PRE-PRESS SYSTEM

VANDERCOOK & SONS, INC.

General Offices, Research Laboratory, Demonstration Room & Factory
3601 W. Touhy Ave., Chicago 45, Ill. Phone: ROgers Park 1-2100
Eastern Office & Demonstration Room
323 East 44th St., New York 17, N. Y. Phone: MUrray Hill 4-4197
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3156 Wilshire Blvd., Los Angeles 5, Calif. Phone: DUnkirk 8-9931

OFFSET PRESSES FOR IMMEDIATE SALE

1 Webendorfer 17 x 22 . . . . . $ 5,000
1 Harris LSB 17 x 22 . . . . . $ 7,200
2 Harris LTC 21 x 28 . . . . . each $10,000
1 Miehle 29—2 years old $10,500
1 Miehle 29—practically new $12,000
1 Harris LTW 21 x 28—practically new . $16,900

Box No. 512
PRINTING EQUIPMENT ENGINEER
1276 West Third St., Cleveland 13, Ohio

efficient, economical handling of stereotype plates is JAMPOL business!

This JAMPOL stereotype conveyor system assures that plates will be taken automatically from the shavers and delivered to the presses without interruption . . . safely and economically and with a minimum of time. Designed and built by JAMPOL, it is only one example of the ingenuity, versatility and exacting standards with which JAMPOL can solve your newspaper handling problems. This has been JAMPOL's only business for more than a quarter century. *We invite your inquiry.*

THE JAMPOL COMPANY, INC.

General Offices and Factory

728-742 61st STREET, BROOKLYN 20, NEW YORK

Troubled with Reproduction Problems?

Switch to

BEVERIDGE MATS

for

- Sharp Clean Reproductions
- Superb Molding Qualities
- Minimum Make-Overs
- Uniform Shrinkage

Write for Trial Order Today!

Beveridge Dry Mats

NEW PRODUCTS DIVISION

The BEVERIDGE PAPER CO.

Indianapolis 4, Indiana

2. Less plates to cast.
3. Pages can be laid out with more flexibility because 5 and 4 col. ads can be scheduled.
4. 72 page papers can be printed in 64 pages with no loss of space; 54 or 52 page papers can be printed in 48 pages; 44 page papers can be printed in 40 pages; 36 page papers can be printed in 32 pages; 26 page papers in 24 pages and 18 page papers in 16 pages.
5. Less paper waste, less labor, fewer rolls to strip, reduced number of roll changes and press stops, and increased storage facilities.
6. Fewer mats to buy and store.
7. 12% increase in advertising revenue on full page units.
8. Approx. 5% saving in newsprint consumption because of less margin space per col.

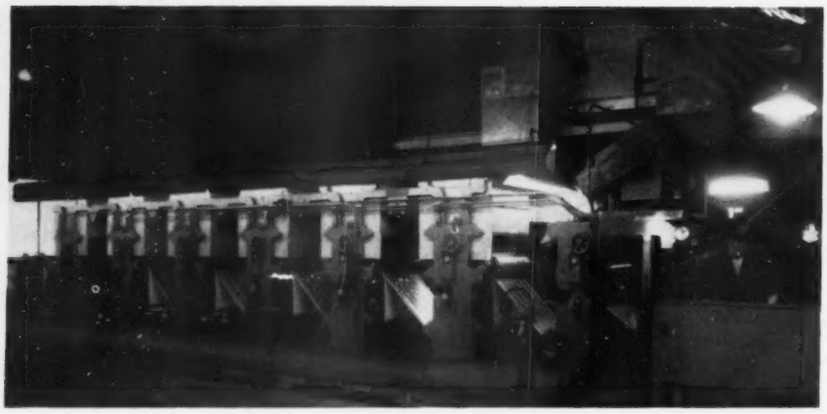
I am particularly pointing to newspapers which are forced to print early-run sections of their newspaper because of insufficient press units. By going to a 9 col. newspaper these early-run sections could, in many instances, be run as a regular part of the paper, thereby saving pressroom and mailroom costs. If all phases in your individual operations are gone into very thoroughly, I think you will find added savings can be possible.

Each individual paper has its own press equipment to consider but it is my opinion that practically all presses are designed to take up to 68 in. rolls.

Department Established—Interchemical Corporation officials have announced establisment of a Product Application Engineering Dept. The unit will be headed by F. L. Warzburg, jr., assisted by Willis E. LeClair, and will report to Norman S. Cassel, Vice Pres., Research and Development. Activities of the department will consist of handling problems posed by the interrelationship of chemistry and mechanics in the application of the chemical coatings produced by Interchemical. Warzburg has been with Interchemical since 1933, and has worked in the Graphic Arts industries with reproduction and control of color. LeClair, who joined the corporation in 1935, works in an engineering capacity with research and development in the application of chemical coatings.

WARZBURG LeCLAIR

Rosback Auto - Stitcher No. 1000 recently was installed by Chicago Machinery Branch of Western Newspaper Union in Des Plaines (Ill.) Publishing Co. Left to right are F. C. Roosevelt, Sales Mgr., F. P. Rosback Co.; Fred Fulle, publisher and owner of the Des Plaines Publishing Co.; E. C. Kehe of W.N.U., and Gertrude Lindgren, Auto-Stitcher operator.



Moves Into $1 Million Plant—Shown above is a six color rotogravure press installed in the recently opened $1 million printing plant of the Pacific Coast Foil Co., South San Francisco, Calif. According to Ralph J. Jorgenson, President, the company's new building is a one-story structure covering 1½ A. with 63,000 sq. ft. of floor space. In addition to space for printing and processing operations, shipping, receiving and storage, there is laboratory where technicians are continually checking quality and experimenting in new fields of gravure printing. The building is surrounded by 4½ A. of land which company officials say will be used for future expansion. The plant is located at 177 So. Airport Blvd. in South San Francisco. General and sales offices will remain at 500 Sansome St., San Francisco.

Edge Gilding

(By M. S. KANTROWITZ, Chairman, Research Committee, Washington (D. C.) Club of Printing House Craftsmen, Inc.)

The success of the gilding operation depends largely upon the experience and good judgment of the gilder. Cleanliness in handling the equipment and materials is also essential. Since many of the difficulties encountered are due to differences in papers used, the experienced gilder will vary his technique to overcome them.

If the edges have first been stained, the books should stand until perfectly dry, preferably overnight. Atmospheric conditions will vary the drying time somewhat. However, the speed of drying may be increased slightly by the addition of a small amount of alcohol to the staining solution.

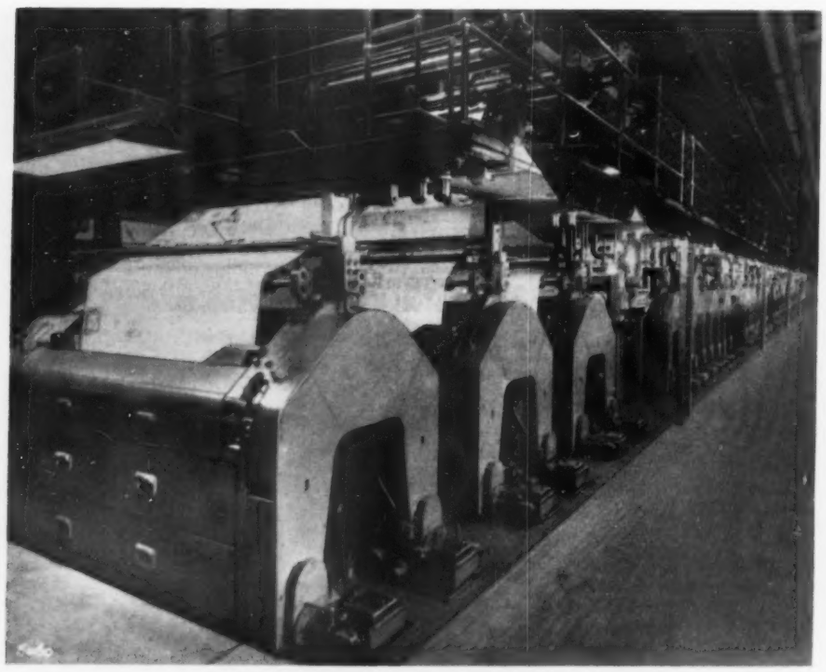
The dried books are next placed in the press and a coating of gum is applied to the edges. Gum tragacanth dissolved in a small amount of water is satisfactory for this, although other gums may be used instead. Allow the gum to dry for a few minutes and then rub down with the hands. This operation should leave the edges dry enough for scraping. Use a sharp scraper lightly, but well, on the edges. Excessive scraping will remove too much stain or color.

The next operation is that of applying the bole or bolus preparation, which is used to enhance the brilliancy of the gold edge. This preparation is made by stirring a teaspoonful of Red Armenian bole, or red chalk, with a small amount, 3 or 4 teaspoonfuls, of water and then mixing with ordinary flour paste. Pass this through a finely-woven cloth to remove lumps and dirt. The bolus preparation should approximate the consistency of molasses. After this preparation has been applied to the book edges with a soft sponge, dry by brushing with a good, clean, medium-stiff shoebrush in order to obtain a nice polish. Two applications of the bolus will be required on some papers. The polishing operation should dry the edges sufficiently to permit application of the glair.

The best glair to use is that freshly made from the white of an egg. On the day previous to using, beat the white of an egg in a pint of water, using an egg beater. Allow to stand overnight and then filter through closely woven cloth. Add more water, depending upon the type of paper in the books to be gilded. Generally, the glair will vary in strength between one white of an egg in three pints of water and one white of an egg in six pints of water. The glair is too thick, and should be thinned, when bubbles form on book edges after it has been applied. Just previous to using the glair, add 3 or 4 drops of muriatic acid or hydrochloric acid. In some instances, the amount of acid will need to be increased.

The glair should be applied to only a small area of the book edge at a time, approximately that covered by 2 or 3 sheets of gold. Then apply the gold at once. When the cloud of moisture formed by breathing on the gold disappears almost immediately, the edge is ready for burnishing.

Sponges used for applying the gum, the bolus preparation, and the glair should be clean. The sponges should be washed several times daily with lukewarm water. The frame for laying on the gold should be clean and free from oils. It may be washed with soap and water.



Large or Small They ALL Run Better on
ALBANY LUBRICANTS

Send for Bulletin No. 10 Press Room Lubricants

ADAM COOK'S SONS. INC.
Mfrs. of Lubricating Products since 1868 LINDEN, NEW JERSEY

ATF Type Faces Announced — Four type faces have been added to the American Type Founders line of foundry types. Brody was designed to make available in type a popular style of freehand display lettering. It is cast on a regular square body with no fragile kerns. Dom Bold is a variation of Dom Casual. Franklin Gothic Wide has been added to the Franklin Gothic family, and is available

Brody looks like ge

in 6, 8, 10 and 12 pt. body sizes in blocks of copy and captions. Steelplate Gothic Bold, in 30 and 36 pt. sizes, has been revived. It is a larger companion face for the Copperplate Gothics. A folder published by ATF includes displays of these faces. Address inquiries to Advertising Dept., American Type Founders, 200 Elmora Ave., Elizabeth B. N. J.

A Good Place to Buy

STEREOTYPE, PRESSROOM OR COMPOSING ROOM SUPPLIES

- **Matrix Scorchers**
- **Matrix Packing Tables**
- **Matrix Trimming Tables**
- **Matrix Backing Felt**
- **Matrix Storage Cabinet**
- **Curved and Flat Casting Board**
- **Cork Moulding Blankets**
- **Cork or Rubber Creepers**
- **Router Bits**
- **Stereotype Chisels**
- **Double Coated Tape**
- **Dolly Trucks** (to your Specifications)

PERFORATED PACKING FELT FOR FAIRCHILD PROCESS

WRITE FOR CATALOGUE NO. 10

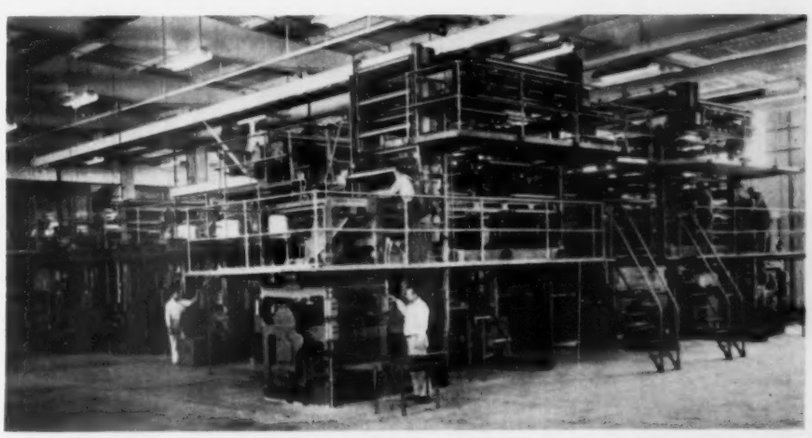
AMERICAN PUBLISHERS SUPPLY, INC.

P. O. Box 421 **Lynnfield, Mass.**

The new one-story plant of Alco-Gravure, Div., Publications Corp., Los Angeles, is furnished with 40,000 sq. ft. of usable space, a 500-ft. railroad siding and loading docks for trucks.

Alco-Gravure in New Home

The Alco-Gravure Div. of Publications Corp., said to be the largest rotogravure printing establishment in the Western Hemisphere, recently announced the completion of its West Coast printing plant at 9320 Bellanca Ave., Los Angeles. The plant is equipped with 12 Goss Speedry rotogravure units and two folders. The presses are complete with steam curing drums for removing moisture from the web before printing, cold water rollers for cooling the web before impression, web smoother before first impression, Offen dryers and imprinters. The presses are equipped to print four colors on one side of the web, and two colors on the opposite side. Capacity of each press row is two 24-page tabloid sections in a straight run or one 48-page tabloid section in a collect run. An anglebar arrangement allows webs to be cross-associated so that a combined magazine section of 96 pages unstitched, or 80 pages stitched, may be printed and folded. The plant contains 40,000 sq. ft. of usable space. It is furnished with a 500-ft. railroad siding and docks for unloading and loading trucks, and is situated less than a mile from Los Angeles Municipal Airport. Officials say that provisions have been made for storage tanks to receive solvents and fuel oil either by railroad or truck. Separate docks are provided for receiving roll paper, materials other than paper, shipping waste and shipping printed matter. The pressroom and paper storage department have been built with a 23-ft. ceiling



Pictured above are twinned Goss Speedry rotogravure presses in the Los Angeles plant of Alco-Gravure, Div. of Publication Corp. Each press consists of six Speedry unit, an imprinter, and one folder with stitcher. Anglebar arrangements allow webs to be cross-associated for producing a combined rotogravure section.

STATIC
is a
burden!
But it can be easily, safely, and inexpensively eliminated. The SIMCO "Midget" Static Eliminator is guaranteed to be the most effective available! Write for folder "PE-8", now.
the SIMCO company
920 Walnut St. Lansdale, Pa.

height. The structure has been arranged for expansion both North and South, which would increase capacity 200%, it is stated. The etching department and office are air-conditioned. Alco-Gravure's Alco Process, which uses a special film manufactured by E. I. du Pont de Nemours & Co., is a method of producing gravure cylinders and plates. It permits, it is claimed, duplicate sets of positives to be made from one master set. The new plant started production with printing editions of *This Week* magazine for West Coast newspapers. Of the total circulation of more than 10,800,000, approx. 1,800,000 will be printed in the Los Angeles plant, it is said. Alco-Gravure also prints, by gravure, the New York *Times* magazine and book review sections, signatures of *Look* magazine, and numerous booklets, catalogs, calendars, etc.

Equipment & Supplies

(Continued from Page 32)

ical lines, etc. Sponsor claims it is non-inflammable, non-explosive and non-injurious to the person using it. Leak-Tec is packaged in a polyethlene container equipped with a specially designed dispenser. To apply, the container is squeezed and the liquid stream aimed at the area suspected of leakage. The leak is detected by looking for an active formation of bubbles on the surface of the equipment being tested. Additional information is available by mentioning PEE No. 203 in your request.

Illustrated Yale Booklet

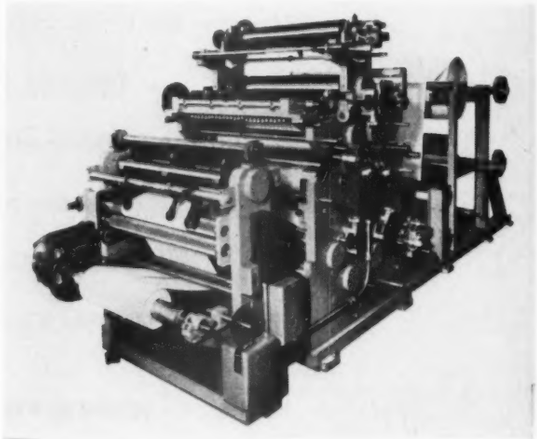
Yale electric trucks in capacities ranging from 1000 to 100,000 lbs. are described and illustrated in a two-color 12 page booklet available from Yale & Towne Mfg. Co. Data on performance and engineering characteristics are listed on a specification sheet, and representative attachments are described and pictured in typical applications. When writing for further details, please mention PEE No. 233.

Business Form Rotary Press

A rotary printing press, Model ED, has been announced by the D. L. Harrison Corp. By means of interchangeable cylinders, the Harrison Model ED can be used to print a web 26 in. wide by 16 in. to 28 in. circumf., in variations of ½ in. The press will print four colors face or three colors face and one reverse. It can be made to number, line-hole and file-hole punch, cross and parallel perforate, rewind or sheet.

In the Model ED, said Pres. D. L. Harrison, successive operations immediately follow each other, eliminating paper stretch and insuring a more nearly perfect register.

Available with the Model ED, Harrison said, is portable, attachable equipment for collating up to a four-part, one-time carbon (snap-out) form with carbon glued in, or to collate and fold up to a four-part register form. Operating speed of up to 20,000 r.p. hr. is possible, concluded Harrison. By mentioning PEE No. 221 in your request, information will be sent promptly.

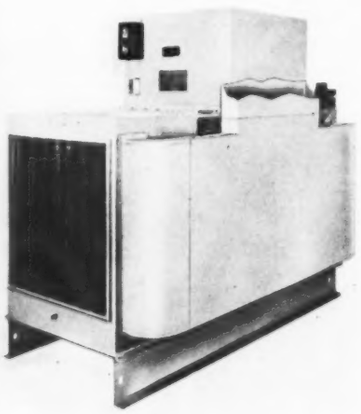


The Model ED rotary printing press, manufactured by the D. L. Harrison Corp., is equipped with interchangeable cylinders and can be used to print a web 26 in. wide by 16 in. to 28 in. circumf., in variations of ½ in.

Improved Humidity Equalizer

Development of an improved humidity equalizer for platemaking departments, pressrooms, binderies and paper warehouses, which operates continuously, has been announced by T-H-E Co., Inc. The three functions of the unit are dehumidifying, humidifying and keeping equalized air in circulation. All functions are controlled by a Minneapolis-Honeywell humidistat.

As the humidistat calls for dehumidifying, a master control motor sets the dampers to pull the contaminated air across an expendable chemical absorption bed. As the dehumidified air equalizes the area, the humidistat governs the clasing of the duhumidifying damper and the opening of the recirculating damper, keeping the equalized air in constant motion.



On the other hand, if the humidistat calls for humidifying, it will introduce controlled amounts of water vapor from either a steam humidifier or an evaporated atomized water humidifier. The unit can be supplied with a fresh air intake that acts as a ventilator as well as providing an inside pressure, thus forming a barrier against the outside contaminated air.

The capacity of the unit is sufficient to treat rooms from 8000 to 12,000 sq. ft., depending on the load conditions as well as other variables. It is equipped with a 3 h.p. Fairbanks-Morse motor. More information is available by requesting PEE No. 215 in your letter.

Micro Switch Catalog

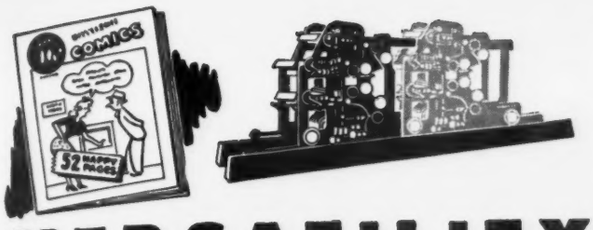
Switches for Industry, a 20 page catalog, has been published by Micro Switch, Div., Minneapolis-Honeywell Regulator Co. In this catalog are described 258 switches, actuators and enclosures. Dimensionalized ilustrations, characteristics, electrical ratings and technical data are included. Please request PEE No. 232 if additional details are desired.

ATF Business Form Press Folder

High-speed business form presses are described and illustrated in a folder published by American Type Founders, entitled *ATF Webendorfer High-Speed Web-fed Business Form Presses Can Spell Profits for You.* Both standard and special business form presses are included. Copies may be obtained by mentioning PEE No. 218 in your request.

Reliance VSR Bulletin

A two-page bulletin in which are described and illustrated the Reliance VSR, an electronic regulator for speed, voltage, and current (tension) regulation for industrial electric motor drives, has been issued by Reliance Electric and En-



VERSATILITY

The versatility of Hess & Barker's Multicolor Web Fed Letterpress increases sales and profits for printers producing folders, booklets, magazines, food containers and all other classes of letterpress printing. And, because of Hess & Barker's unique frame design, you can start with 4 colors one side or 2 colors 2 sides. As your requirements increase add up to 5 colors both sides. Speeds up to 10,000 sheets an hour, roll delivery up to 600 feet per minute. Special fountain keys hold full color for entire run. Quick accessibility reduces change-over time. Tapered gear teeth guarantee 100% hair line register. Plates last longer on solid steel cylinders.

Write for additional information today.

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Printing Press and Equipment Manufacturers

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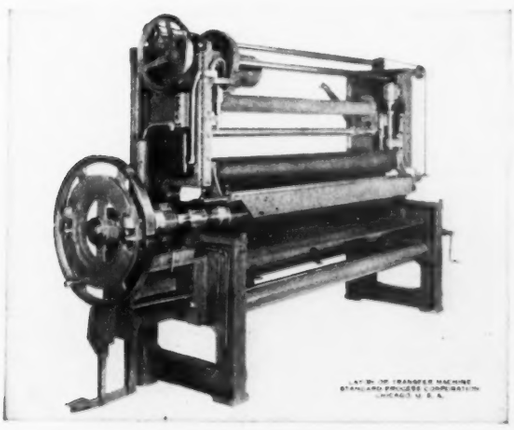
MULTICOLOR WEB-FED LETTERPRESS



ROTOGRAVURE

PRECISION LAYON MACHINE

Manufactured in a wide range of sizes for transferring carbon tissue in perfect register to any number of cylinders. This is accomplished by means of a definite key between copy and cylinder, a positive method of fixing the cylinder in the machine and a device for checking accuracy of its position so it can be re-positioned any number of times. A lock on the dividing head secures the cylinder in position. The rubber impression roll is raised and lowered by a gear motor with pressure against the cylinder regulated by an adjustable control. Equipped with counter-balanced register bar, Vernier scale and scribe.

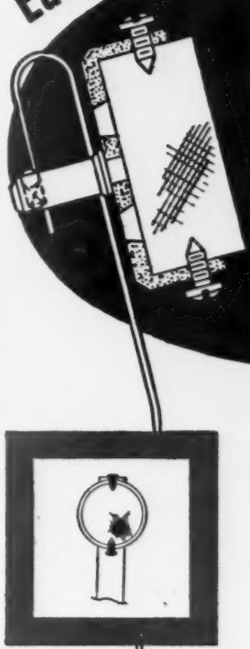
STANDARD PROCESS CORPORATION

Manufacturing Gravure Equipment & Supplies

2704 W. Roscoe Street • Chicago 18, Ill.

Easy to Install—Use—and Service

STAR'S *improved* BACK MOLD WIPER



Front View

When it comes to delivering dependable service and long life, rugged Star Back Mold Wipers are in a class by themselves.

Spring tempered steel body attaches securely to base by 2 U clamps. A simple pull forward instantly releases cup and wiper for felt treatment or replacement. Four convenient holes in back of cup make lubrication quick and easy. Standard solid felts are secured by set screws, but tape rolled felts are available on specification. It will pay you to investigate the advantages of Star Back Mold Wipers on your composing machines.

Write today

HAVE YOU TRIED "SLIC"

The new silicone base solution which prevents metal adhesion to molds is a companion aid to the Star Back Mold Wiper in the servicing of molds. Low, low cost . . . 6, 8 and 16 oz. cans. Write today for further information.

Precision Trade Mark Parts

LINOTYPE PARTS *Company, inc.*

SOUTH HACKENSACK, N. J.

BRANCH: 1327 BROADWAY, KANSAS CITY, MO. AGENCIES: CHICAGO MINNEAPOLIS • LOS ANGELES • DENVER • BOSTON

CANADA: SEARS LTD. and Agents Overseas

Modernize Your Present Press Equipment

Wesel Helps You Speed Production, Increase Profits and Improve Quality

Old "V" style cylinders are re-grooved quickly and economically to the Wesel Final System. Conversion cost varies with the cylinder size. Estimates are furnished without obligation.

WESEL MANUFACTURING COMPANY

1141 N. WASHINGTON AVENUE SCRANTON 9, PA.

WRITE FOR FREE BOOKLET

Tells you how to increase profits through the use of Wesel Equipment

gineering Co. Function of the regulator in controlling motor or generator field excitation in response to the input signal from the quantity being regulated is explained. Also featured in the bulletin are Reliance's recently developed Sealpak Units. Please mention PEE No. 216 when writing for further information.

Foster Silver King Galley

Officials of Foster Mfg. Co. have introduced a galley said to be guaranteed against rust for 10 years. The galley is furnished with reinforced corners and the folded double wall. Galleys are available in five sizes: 3½ in. by 13 in.; 6¼ in. by 13 in.; 15 in. by 23½ in.; 18¾ in. by 23½ in., and 14 in. by 20 in., as well as all standard sizes. The galley is of standard thickness for proofing on all proof presses and is made with a smooth surface, sponsor states. Additional information can be obtained by requesting PEE No. 219.

Electronap Flock Applicator

A machine designed for automatic application of flock materials to greeting cards, announcements, displays, novelties, place mats, direct-mail pieces, etc., has been announced by Darling-Payne Corp. To be known as the Electronap Flock Applicator, the sponsor describes its operation as projecting the flock by an electrostatic principle. The machine will handle one or two lines of cards simultaneously. It is claimed it will deliver 5000 cards per hr. in a single line or 10,000 cards per hr. in a double line. The machine is available in 16 in. and 24 in. widths, with rotary delivery system for cards or special delivery for sheets. Excess flock is automatically returned for reuse. The amount of flock may be regulated if desired. A built-in steam humidifier provides the proper moisture content in the flock. A drop-off and blower system is designed to remove excess flock from the work. Illustrations and a description of the flock machine are included in a six page bulletin issued by Darling-Payne. Other equipment such as an automatic glitter machine, batch counter, rubber plate press, adhesive printer and imprinting machine are also shown in the bulletin. For a copy of the literature and more details on the machine, please mention PEE No. 206 in your request.

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DESIGNED & BUILT TO YOUR SPECIFICATIONS BY
GEORGE HANTSCHO

22¾" x 36" HIGH SPEED PUBLICATION PRESSES NOW IN PRODUCTION

Over 25 years' experience designing and building presses

GRAPHIC ARTS MACHINERY, INC.
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THE DOYLE INFRARED DRYER
Patented
for all types of printing machinery
THE DOYLE VACUUM SHEET CLEANER
Patented
Removes dirt, dust, lint and dry spray from paper while printing
The J. E. Doyle Co., 1220 West 6th St., Cleveland 13, Ohio

SINGLE COLOR OFFSET PRESS by I. H. Sayre

Offers detailed technical explanation of the operation and adjustment of the small single color offset printing press. Bound in cloth, 284 pages with 99 illustrations. Price, $6. Cash with order. May be ordered from *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Monomelt

The Only Hot Metal Feeder for Line-Casting Machines, Ludlow and Elrod

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COMPOSING ROOM AND ELECTROTYPER'S SUPPLIES AND EQUIPMENT

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1611 N. E. Polk Street
Minneapolis 13, Minnesota

LEADING IN DEPENDABLE PERFORMANCE

Uniformity—from day to day, year to year—is the quality most frequently mentioned when customers explain their preference for Wood Dry Mats.

WOOD FLONG CORPORATION

HOOSICK FALLS, N. Y.

WOOD DRY MATS
ALWAYS UNIFORM

New York City Office
551 FIFTH AVENUE, NEW YORK 17, N. Y.

Aqua-Trol Rights to ATF

American Type Founders officials have acquired exclusive sales rights for Aqua-Trol, in a recent agreement with Interstate Offset Products Co., Houston, Tex., it has been announced. When using Aqua Trol, sponsor states, an automatic equilibrium between inking and dampening systems is maintained which remains constant even during changing room conditions, it is claimed. All inks print with more strength of color and will dry more quickly on paper because Aqua-Trol removes excess moisture, according to ATF officials. Literature will be sent upon request. Please mention PEE No. 217 in your request.

Contact Printer

The Time-O-Lite Printer, an all-metal contact printer featuring a built-in automatic synchronous motor driven timer, has again been placed into production by the Industrial Timer Corp. It was withdrawn from the market because of material shortage during the Korean conflict.

The timing mechanism is designed to automatically turn on the printing lights when the platen is pulled down, turn them off at the end of the required time, and reset for the next print. A red pilot light mounted on the front panel shows the operator when the required time has elapsed, and goes off when the platen is raised.

Spring steel masking strips are mounted on rigid guides and lock in position. Margin guides are calibrated. A sponge rubber platen, covered with black muslin, is designed for positive contact between negative and film over entire area. An inner light box containing a red safety lamp and four printing lamps is coated with baked-on chemical resistant, white enamel, and the top is covered with opal glass.

Electrical equipment includes porcelain sockets and heavy duty switches. Adequate ventilation is provided. It is claimed the arrangement of printing lights and the use of diffusing glass assures uniform light distribution and eliminates hot or cold spots.

The printer is available in an 8 in. by 10 in. size. For further information, please mention PEE No. 213 in your request.

Post Electronic Counter

The Post Model F-1 Counter, a product of Post Machinery Co., Electronics Products Div., is designed to count continually at a speed of 2 to 3 per sec., and can be adjusted to count up to 7 objects per sec., according to the sponsor. However, it is advised that an average 2 to 3 object-per-sec. rate be maintained to preserve totalizer life. Any Post photohead, and line voltages from 100-120 can be used, it is claimed. The counter can be located as far away as 100 ft. from the photohead, which can be used in confined areas, and the counter can be mounted on the production machine. The standard Model F-1 counter is provided with an 8 ft. length of cord from counter to photohead. Longer cords can be provided. In writing for extra details, please mention PEE No. 228.

Nolan Stereo Casting Box

Nolan Corporation announces an additional model to the SuperCaster line of stereotype flat casting boxes. Called the BP-626, this 6 col. by 26 in. caster is supplied with a screw type pouring valve. Tension provided by the spring loading device is claimed to provide a lapping action each time the valve is turned thereby keeping the outlet clean and tight fitting. The new model is equipped with

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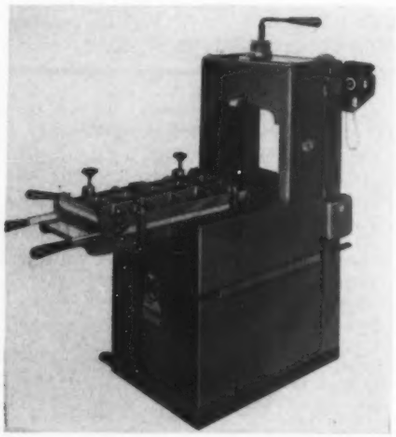
spring counter balance on top platen and swivel type platen handles which facilitate lifting platens into pouring position. A full length platen safety lock pedal



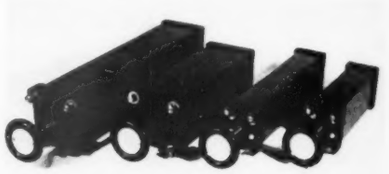
makes for easy operation from either side of the machine. Heating may be either gas or electric. When electrically heated, a special Calrod immersion type heater is used. Thermostat heat control and platen preheaters are available. Please mention PEE No. 223 when requesting further information.

Productive Maintenance Bulletin

An 18 page publication, *Five Steps to Productive Maintenance*, is available from General Electric Co. The bulletin includes information on organizing to meet demands made on electrical maintenance programs by automation. Organization steps discussed are gathering equipment data, determining extent of routine maintenance, establishing a routing operating control system, evaluation for critical maintenance, and establishing a critical maintenance program. Further details may be had by requesting PEE No. 231.

Improved Carbon Pile Rheostat

An improved carbon pile rheostat has been announced by Hanson-Van Winkle-Munning Co. Designed for use in electroplating insallations, the rheostats can also be used in any low voltage, high current application where stepless control is desired. The H-VW-M rheostats are built of rectangular carbon plates formed in a single pile and housed in a one-piece steel box. Sponsor states they are rated from 25 to 250 amps on continuous service, with higher ratings when loads are intermittent. Resistance changes range as high as 50 to 1. Spon-



sor also claims the rheostats are proportioned for moderate temperature rise. Please mention PEE No. 211 if you desire further information.

Machine Coils Metal or Plastic

Plastic Loose Leaf, Inc., a subsidiary of the Wilson Jones Co., recently introduced its new Automat 140 spiral coiling machine. It is reported that the Automat 140 can be utilized to form either plastic OR metal spirals at the rate of 650 ft. per hr. in endless lengths with any pitch

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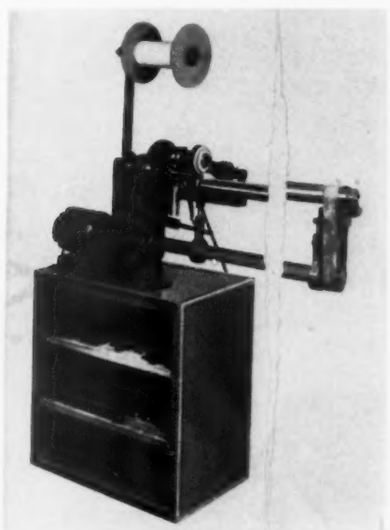
or diameter without the use of hot or cold water, steam or infra-red lamps. Adjustments, sponsor states, can be made



in minutes to convert the machine from one material to the other.

If you will mention PEE No. 226 in your request for further information it will be sent promptly.

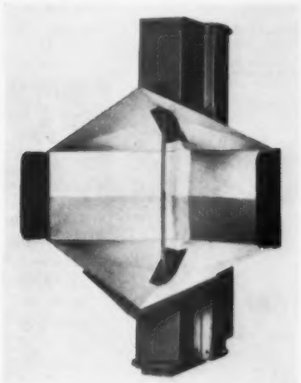
Motor Driven Camera Arc Lamp

A motor-driven camera arc lamp known as the Grafarc Challenger has been announced by the Strong Electric Corp. Sponsor states the arc lamp has been designed with special consideration of the requirements of the modern camera galley. It is claimed the reflector is designed for providing uniformity of light distribution on work of any size, with steadiness of light volume. Color temperature is said to remain constant at 6300 deg. Motor feed is designed for maintaining constant current.

Photo 88 copper coated high intensity carbons are burned in a vertical trim at 75 amps., 25 v. at the arc. Sponsor also claims the arc may be burned 1¾ hrs. without retrimming.

A single glass insulated transformer supplies power for two camera lamps. With both lamps operating, the current draw is claimed to be 25 amps, from 230 v. a.c.

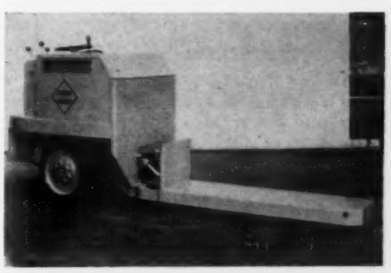
The lamp unit weighs 36 lbs. and may



be mounted on the lamp support arms of any camera. Adapters are available to fit all types of lamp carrier arms. Additional details may be obtained by mentioning PEE No. 214 in your request.

Platform Truck

A 6000 lb. capacity low lift platform truck has been developed by officials of Elwell-Parker Electric Co. The platform of the truck is 7 in. high. The vehicle also is equipped with 10 in. of platform lift. The platform is 20 in. by 72 in.; sizes can be varied. To accommodate the low platform position, the truck is furnished with four trailing wheels on



which the load is supported. The wheels are mounted in tandem and are articulated for travel over uneven floors. The truck is operated by an Elwell-Parker Rolotac control designed for max. current carrying capacity with min. maintenance, sponsor states. Additional information may be obtained by mentioning PEE No. 229 in your request.

Improved Mold Wiper and Silicone Base Fluid

Linotype Parts Co., Inc., announces an improved Back Mold Wiper for Linotype and Intertype machines. The wiper body is made of spring tempered steel, and is attached to the angled cross bar of the machine base by means of two U clamps shown in the illustration. The

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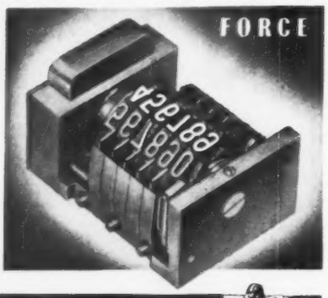

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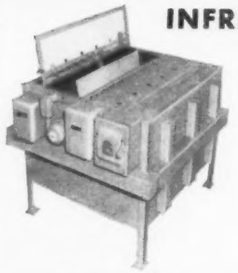

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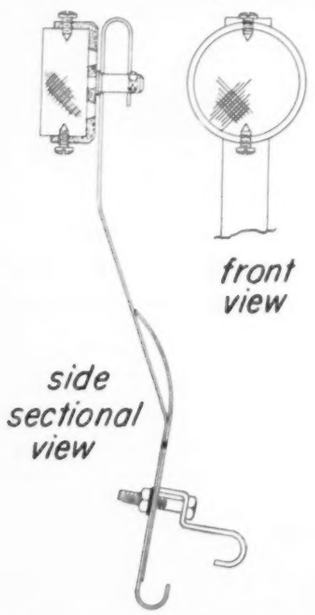
felt wiper is housed in a removable cup held in place by a spring-loaded retaining ball. A pull forward on the cup detaches the cup and wiper from the



body for treatment or replacement of the felt. On the reverse side of the cup are four holes through which any lubricant favored by the machinist or operator may be fed. The equipment felts are of the solid type, but the tape rolled felts are available when specified. The felts are held in the cup by two pointed set screws, one on each side.

A companion aid in the servicing of molds is the new solution called Slic. The solution consists of 35% silicone base, the carrier being of a completely harmless character, according to Linotype Parts Co. Application of the solution through the back and front mold wipers, it is claimed, will cause 100% resistance to all metal adhesions to these steel surfaces, and eliminate ejection difficulties which arise from such adhesions. It is further claimed the solution may be applied to any other steel surfaces such as vise jaws for the same purpose, without any harm to matrices. Slic will be available in 6 oz., 8 oz., and 16 oz. cans. The 6 oz. can will have a spout top. The can may be refilled from the larger spoutless cans. Information about both new products may be obtained by mentioning PEE No. 230 in your request.

Sta-Hi Vacuum Flat Former

At the ANPA Mechanical Conference in Atlantic City, Sta-Hi Corporation introduced its latest development in newspaper stereotype equipment. This is the Sta-Hi Vacuum Flat Former. The machine has been specially designed to dry and form mats to obtain better flat casts of advertising material and syndicated features, and also to be used in handling dry mats for color, where flat surfaces are necessary for proper registration. The Vacuum Flat Former is constructed along the same lines as the Sta-Hi Master Former. The same features of automatic operation are incorporated, including electric timing and thermostatic heat control. Specifications are as follows: Machine base, 32 in. by 24 in. Height (vacuum chamber open) 52 in. Height (vacuum chamber closed) 40 in. Width, 33 in. Length, 53 in. Motor, 1½ h.p. direct connected. Total heater load, 3600 w. Net weight, 1000 lbs. By mentioning PEE No. 224 further information will be sent gladly.

(Continued on Page 96)

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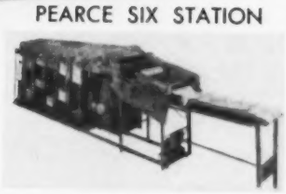

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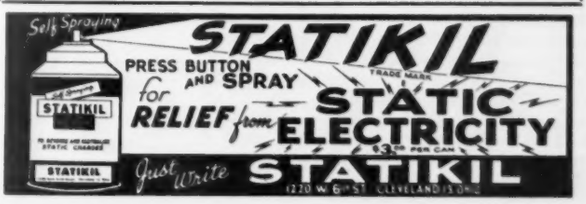

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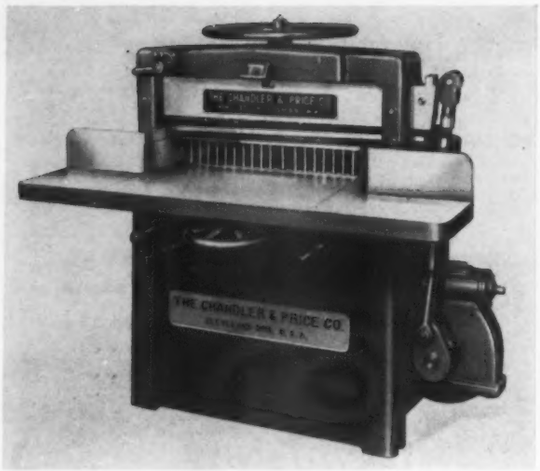


The 37 in. Craftsman hand clamp power paper cutter recently announced by Chandler & Price Co. Unit features a stabilizer device to insure parallel movement of clamp.

37 in. Hand Clamp Power Paper Cutter

The Chandler & Price Co. has announced the addition of a hand clamp power paper cutter to its 37 in. size cutter range. The machine is equipped with built-in fluorescent lamp, two handed cutting controls and non-repeat safety device. The table area extends 20⅜ in. in front of the knife and 37¼ in. back of the knife. Extension tables, 12 in. by 18 in. in size, are provided to the right and left of the main work area. Two scales are inserted on the front of the table. Sliding plate on left front closes knife slot opening to prevent stock from jamming and marking.

The chain driven back gauge is ball bearing mounted and equipped with an improved type of lock. The clamp is equipped with a stabilizer, supported by bronze bearings, which the sponsor claims keeps the clamp always parallel to the table. The cutter is also equipped with a 2 h.p., 1750 r.p.m. drive motor.

The manufacturer states the machine is designed for conversion to an automatic cutter at any time by the installation of a power clamping unit in place of the hand clamping device. Please refer to PEE No. 212 if further details are desired.

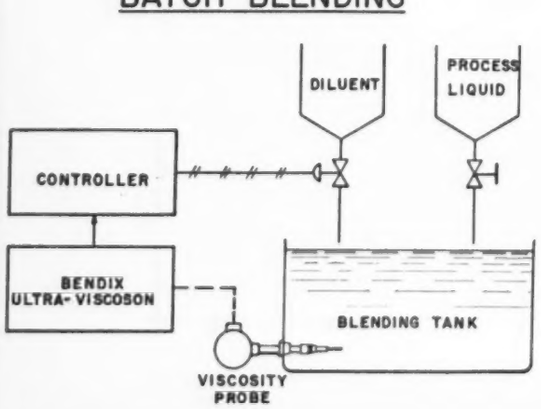
Numbering Machine Washer

An electric washer for cleaning and lubricating 25 to 30 standard numbering heads or 15 to 20 rotary heads at one time, has been announced by The Wetter Numbering Machine Co., Inc. Cleaning and lubricating in a single operation, it is reported, the washer quickly removes all dust, lint, ink, and other foreign matter leaving heads cleaned and covered by a fine film of non-gumming oil. Known as the Sol-Dor cleaning unit, the washer requires no dismantling and reassembling. The cleaning unit consists of three principal parts: A small cleaning tank, a tray on which dirty numbering heads are placed, and a propeller which swirls the cleaning solution. In operation, the swirling motion forces cleaning compound at high speed through openings in the numbering heads. The Sol-Dor cleaning solution is compounded for use with the cleaning unit. Three quarts of cleaning solution are required to fill cleaning unit. For further information please mention PEE No. 225 in your request.

Miller Press Specifications

Specifications for Miller letterpress and offset presses are listed in a pocket-size 24 page booklet prepared by Miller Printing Machinery Co. In addition to the sheet and chase sizes, speeds, etc., each listing is accompanied by an illustration of the press as well as a top and side view floor plan diagram. The booklet is thumb-indexed for reference purposes. The front part of the booklet is devoted to descriptions and illustrations of the features of Miller presses. For a copy, please request PEE No. 210 in your letter.

Alquist Winder Bulletin—Constant tension from start to finish in winding roll-fed material is discussed in a four-page folder recently issued on the Hobbs Alquist Winder by the Hobbs Mfg. Co. For further information, please mention PEE No. 189 in your request.



Bendix Ultra-Viscoson

The Cincinnati Div., Bendix Aviation Corp., has announced a new viscosity measuring instrument called the Bendix Ultra-Viscoson. This instrument, utilizing ultrasonic principles, is now offered in a line of indicating, recording and control systems which feature a new approach to process control through viscosity. Sponsor states that in addition to uses in other industries the versatility of these systems can be emphasized because success has also been achieved with laminating resins, gravure inks and interface detection. Please mention PEE No. 227 in your request for further information.

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AUGUST 1954

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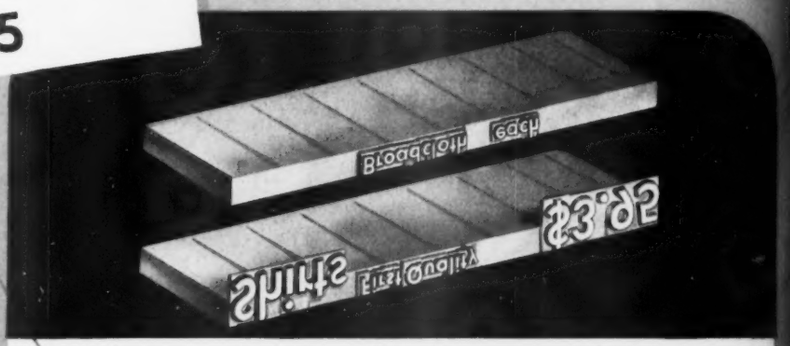
How an INTERTYPE MIXER *excels in setting complex composition*

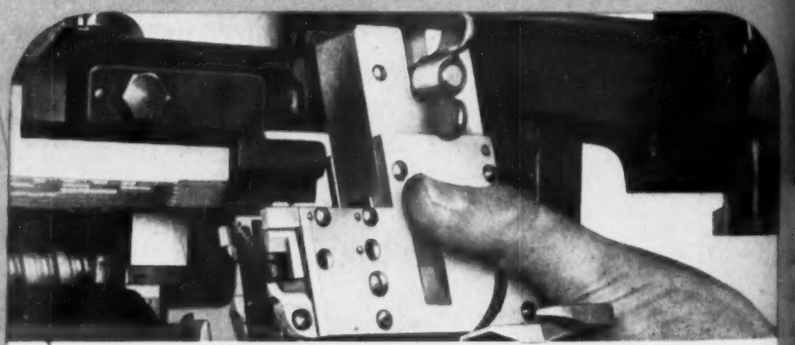
1 The Finger-flip Shift on an Intertype® Mixer line composing machine mixes matrices from adjacent magazines at the touch of a finger . . . as many as six faces in one line.

2 Here are two matrix lines assembled—as easily as straight matter—without changing the position of the magazines.

Shirts First Quality Broadcloth each **$3.95**



3 These two mixed composition slugs were cast in the same Intertype overhang figure mold and delivered to the galley ready for rapid assembly. Quality results at top speed!



4 Matrices go back automatically through *only one distributor box* to their respective magazines by way of Intertype's simple, continuous distribution—fast, efficient, dependable.

INTERTYPE CORPORATION

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